Memo

To:	Michael Traffalis, PE Western Federal Lands Highway Division 610 E. 5th Street Vancouver, WA 98661	Project:	SE1016011
Through:	Brian Wacker, PE Robert Peccia & Associates, Inc. 825 Custer Avenue Helena, MT 59601		
From:	Gary Dupuy	cc:	Project File
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Date:	November 10, 2011		

Subject: **Data Report**
Task Order No. T-11-004, IDIQ Contract No. DTFH70-10-D-00016
Avery Landing, ID PFH 50(9)

Dear Mr. Traffalis:

This report summarizes the results of field studies conducted on the Federal Highway Administration right-of-way at the former Avery Landing Railroad Yard site. AMEC Geomatrix, Inc. (AMEC), under contract with Robert Peccia and Associates, conducted the investigation on behalf of the Federal Highway Administration (FHWA), Western Federal Lands Highway Division (WFLHD), to assess the extent of petroleum contamination on the FHWA right-of-way. The work was conducted as part of FHWA's collaboration with the United States Environmental Protection Agency (EPA) to carry out additional testing and cleanup of contamination on the FHWA-owned areas within the former Avery Landing railroad yard (site). The investigation was carried out in accordance with the *FHWA Right-of-Way Investigation Work Plan* (work plan) (AMEC, 2011).

The Avery Landing site is located in the St. Joe River Valley in the Bitterroot Mountains in northern Idaho, 1 mile west of the town of Avery in Shoshone County (Figure 1). The site is directly adjacent to the St. Joe River, which abuts the site to the south, and includes a portion of U.S. Forest Highway 50 to the north. The site is located within the northeast quarter of Section 16, Township 45 North, Range 5 East Boise Meridian (B.M.), and the northwest corner of Section 15, Township 45 North, Range 5 East, B.M.

1.0 BACKGROUND

The EPA has identified contamination of soils and groundwater in an area along the St. Joe River in Idaho historically known as the Avery Landing Railway Yard. Soil and groundwater at the site are known to contain petroleum hydrocarbons and other hazardous substances (primarily related to hydrocarbon impacts), apparently associated with the site's historical use as a railroad roundhouse

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and maintenance facility. Petroleum hydrocarbons at the site are discharging to the St. Joe River in violation of the Clean Water Act. In addition, substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) have been found on non-FHWA portions of the site. A plume of light nonaqueous phase-liquid (LNAPL) extends from the northern edge of the site toward the St. Joe River. Releases to the St. Joe River have occurred and are still occurring as a result of migration of petroleum hydrocarbons. The petroleum constituents consist primarily of petroleum hydrocarbons in the diesel and Bunker oil range. These petroleum constituents are present on property owned by the FHWA along Forest Highway 50, but the extent of impacts on FHWA property was previously unknown.

An Engineering Evaluation/Cost Analysis (EE/CA) for cleanup of the Avery Landing site included a detailed discussion of the site history and environmental impacts (Ecology and Environment, Inc., 2010). A brief summary of the background and current conditions at the site based on that report is presented below.

1.1 Property History

The current layout of the site is shown on Figure 2. Most of the former Avery Landing site is currently owned by Potlatch Forest Products Corporation and by Larry Bentcik and Ethel Bentcik, private landowners. The United States of America (US) owns the northernmost contamination site within the Forest Highway 50 right-of-way. Additionally, a small track of land to the north of the US lands is where the majority of the fuel tank resided and has documented contamination. These lands are owned by Bearmouth Logging, Inc. The entire area was used as a switching and maintenance facility for the Chicago, Milwaukee, St. Paul, and Pacific Railroad (Milwaukee Railroad) from 1907 until 1977. The Milwaukee Railroad operated electric locomotives from the mid-1910s until the mid-1970s, and the facility was located at the end of an electric rail line from the east. The facility included structures associated with railroad operations, including a turntable, roundhouse, machine shop, fan house, engine house, boiler house, storehouses, coal dock, oil tanks, a pump house, and other aboveground structures. Activities included refueling locomotives, using solvents to clean engine parts, cleaning locomotives, and maintaining equipment. The Avery facility was used to switch trains to fuel oil and/or diesel locomotives. Fuel oil was stored on site in a 500,000-gallon aboveground storage tank previously located at the northern edge of the site, immediately north of the current Forest Highway 50.

From 1973 to 1980, Potlatch Corporation leased portions of the site from the Milwaukee Railroad (renamed the CMC Real Estate Company), then acquired the western portion (Section 16) of the site in 1980. Potlatch Corporation leveled and graded the property and then used it for temporary log storage. Portions of the property have also been leased to other tenants for log storage, parking, and trailer storage. All buildings and equipment associated with the former railroad maintenance facility were demolished after Milwaukee Railroad ceased operations, but it is unknown when or by whom. In 2005, Potlatch Corporation transferred the site to Potlatch Forest Products Corporation (Potlatch). The eastern portion reverted to Causette Posey, then purchased by Larry Bentcik and Ethel Bentcik, the current owners, in 1996.

FHWA acquired the original railroad grade along the northern edge of the site for use in the construction and expansion of Forest Highway 50. A portion of the site extends to the shoulder north of the highway, where a former 500,000-gallon aboveground fuel tank was located. Potlatch

Corporation in the late 80s removed and disposed of the fuel tank and any remaining contents. Potlatch Corporation has conducted several interim remedial activities on site. Beginning in 1994, Potlatch Corporation captured groundwater and free LNAPL in trenches installed along the St. Joe River. From 1994 until 2000, the untreated groundwater was processed through an oil/water separator and then re-injected through a re-infiltration trench running along the north side of Forest Highway 50.

1.2 Previous Investigations

Soil and groundwater characterization has been performed at the site during several previous investigations, including, most recently, an EPA Removal Assessment (Ecology and Environment, Inc., 2007) and field investigations conducted by Potlatch (Golder, 2009, 2010). The results of these and former investigations are summarized in the EE/CA (Ecology and Environment, Inc., 2010). Field work for the EE/CA was performed by Potlatch under a 2008 Administrative Settlement Agreement and Order on Consent (ASAOC) with EPA (EPA, 2008) (Golder, 2009, 2010).

During the field investigations in 2007 and 2009, trace concentrations of polychlorinated biphenyls (PCBs) and other CERCLA regulated substances were detected in subsurface soils, in groundwater, and within the LNAPL plume on site, although no PCBs or other CERCLA regulated substances have been detected on FHWA property. The PCBs may have been associated with the transformer oil stored at the site. Hydrocarbon contamination is the main contaminant that has been found on the FHWA right-of-way. A number of polycyclic aromatic hydrocarbons (PAHs) have also been detected on non-FHWA portions of the site, but have been detected mostly at concentrations less then screening levels. Only one PAH compound in one single sample in any portion of the site has been detected above the Idaho Default Target Level (IDTL): 2-methylnapthalene was detected at a concentration of 5.21 milligrams per kilogram (mg/kg) in one sample from boring BH-5 at a depth of 7.5 feet below ground surface (bgs), compared to the IDTL of 3.3 mg/kg for that compound.

Based on the findings of the EE/CA, soil, groundwater, surface water, and sediment at the Avery Landing site have been found to contain petroleum hydrocarbons and hazardous substances predominantly related to the hydrocarbon plume. Petroleum hydrocarbons (diesel and heavy oil) are present in subsurface soil and groundwater and are discharging into the St. Joe River, which is adjacent to the site. Free product (LNAPL) has been observed in borings and monitoring wells on site, indicating that a continuing source of petroleum hydrocarbons is present in subsurface soils and contributing to ongoing impacts to the St. Joe River.

The EPA has developed a draft Action Memorandum (Action Memo), approved July 5, 2011, that outlines the preferred method for cleanup of contamination at Avery Landing (EPA, 2011). The Action Memo requires a removal action for excavation, removal, and disposal of contaminated soils and LNAPL to the extent practical. Excavated soils will be disposed of at a permitted landfill. EPA anticipates that the bulk of the contamination will be removed and that remaining contamination will be addressed by natural attenuation.

FHWA contemplates a removal action on the FHWA property consistent with the Action Memo. Prior to approval of the Action Memorandum, soil characterization had not been performed on the FHWA right-of-way to a level necessary for a suitable design of the removal action on the FHWA property. Specifically, the northern extent of petroleum impacts on the FHWA property, and the lateral extent of

impacts running east/west along Forest Highway 50, had not been characterized. This document describes work performed to characterize petroleum hydrocarbon impacts on the FHWA-owned right-of-way.

1.3 Geologic Setting

This section summarizes geologic conditions at the site, based on the summary presented in the EE/CA (Ecology and Environment, Inc., 2010). The site is located within the Northern Rocky Mountain province along the south slope of the Bitterroot Mountains in the St. Joe River valley. The subsurface geology and the geology of the surrounding hills is dominated by Precambrian (middle Proterozoic) sedimentary deposits, including carbonates and quartzite that are part of the Piegan Group, also known as the Middle Belt Carbonate, Apple Creek Formation. These deposits were part of an intracratonic basin that was periodically connected to the ocean system, and lacustrine and oceanic deposits can be found throughout the group.

The site was developed along an active portion of the St. Joe River by in-filling of material removed from the steep canyon walls, which is evident from the coarse-grained angular gravels that are apparent in the upper 10-12 feet of fill across the site. The site has historically undergone extensive grading to make it a suitable location for a railroad facility. The site is immediately underlain by unconsolidated sand and gravel fill materials existing from ground surface to about 12 feet below grade. At various locations on the Potlatch-owned portion of the site, debris consisting of concrete, wood waste, scrap metal, asphaltic material, and pipes of various material and dimensions were encountered in test pit excavations. Approximately 700 feet of the river bank adjacent to the site was excavated and backfilled with fill soils and riprap rock placed on the riverside surface for armor to minimize bank erosion. Below the unconsolidated fill material are rounded gravel alluvial deposits of the St. Joe River.

1.4 Hydrogeologic Setting

The site hydrogeology is controlled by the shallow bedrock of the canyon walls at the north edge and the coarse-grained fill and alluvium of the majority of the site. The fill and alluvium are hydrologically connected to the St. Joe River. Surface water and shallow groundwater flowing from the hills on the northern boundary of the site drain into the fill and alluvial materials, and then flow as groundwater into the St. Joe River. Groundwater flowing southward from the hills present to the north gradually changes flow direction toward the west, under the influence of the river, which flows from east to west. A small alluvial fan associated with the small creek drainage located near the former 500,000-gallon fuel storage tank extends onto the larger alluvial terrace. Groundwater is encountered at shallower depths in the small alluvial fan than on the majority of the site.

Flow volumes in the St. Joe River vary significantly from peak runoff in June and low water levels in late fall and winter. This results in significant changes in the water table on site as measured during the past investigations and as summarized in the EE/CA (Ecology and Environment, Inc., 2010).

2.0 OBJECTIVES AND SCOPE OF WORK

The work described in this memorandum was conducted to achieve the following objectives:

1. Evaluate the nature and extent of petroleum hydrocarbon contamination in soil on the FHWA-owned right-of-way within the Avery Landing site to determine the presence/absence and extent of hydrocarbons requiring cleanup, and
2. Provide data suitable to evaluate alternatives and design a final removal action for cleanup of the right-of-way or alternatively, for documenting that no further action is necessary.

To meet these objectives, AMEC advanced boreholes on the FHWA owned right-of-way, collected soil samples from the boreholes for hydrocarbon analysis, performed sheen tests, and measured the thickness of LNAPL in the boreholes. With the exception of borings near the northeastern corner of the site, no recent previous subsurface investigation had been performed on FHWA property prior to this work.

The Clean Water Act, as amended by the Oil Pollution Act, prohibits the discharge of oil affecting natural resources belonging to the United States in such quantities as are determined by the EPA to be harmful. The EPA has determined that a "harmful quantity" of oil is an amount that, when discharged, violates applicable water quality standards, causes a film or sheen on the surface of the water, or causes a sludge to be deposited beneath the surface (40 CFR § 110.3). Idaho state regulations do not provide specific soil screening levels for total petroleum hydrocarbons (TPH). For the purposes of this investigation, the presence of hydrocarbons at quantities sufficient to produce a sheen, sludge, or measurable LNAPL was considered to be a likely ongoing source of impacts to downgradient groundwater and potentially to the St. Joe River. Therefore, based on EPA requirements, quantities of oil producing a sheen, sludge, or measurable LNAPL are considered to be a harmful quantity, as oil in these quantities is likely to represent an ongoing source to downgradient groundwater and the St. Joe River. Soil that does not contain visible impacts and that does not fail the sheen test is unlikely to pose a risk to the river and could potentially be left in place.

3.0 SUMMARY OF WORK CONDUCTED

AMEC staff and subcontractors conducted drilling and soil sampling beginning September 20, 2011, and ending September 22, 2011. FHWA personnel were present during field activities on September 21, 2011, to observe the work. At the same time as the FHWA investigation conducted by AMEC staff, personnel from EPA and EPA's Superfund Technical Assessment and Response Team (START) contractor performed test pitting on the property to the south of the FHWA-owned right-of-way. EPA personnel periodically visited the FHWA drilling and sampling operation to compare field observations between the two portions of the site.

Prior to drilling, sampling locations were marked in the field based on locations proposed in the work plan. A public utility locate (OneCall) was performed, and underground utilities at all locations were cleared by Utilities Plus, LLC, a private locating firm, after the locations had been marked by AMEC staff. One telecommunications line was identified slightly south of the paved surface of Forest Highway 50. No other utilities were identified near the sampling locations.

Eleven borings were advanced at the locations shown on Figure 2. Borehole locations BH-103, BH-106, and BH-111 (alternative additional borehole) were completed at different locations from those proposed in the work plan, based on the following rationale for each location:

- BH-103 was moved northwest of the proposed location, because the northern extent of petroleum impacts had not been identified in BH-104 drilled earlier in the field campaign.

- BH-106 was moved southeast of the proposed location, because relatively slight petroleum impacts observed in BH-108 indicated that investigation closer to known LNAPL in well MW-11 may be warranted.

- BH-111 was moved significantly to the northeast of the proposed location of BH-ALT, because no additional delineation of petroleum impacts was necessary west of the slight impacts observed in BH-108, and because additional delineation was necessary north of the final location for BH-106.

All other boreholes were completed at the locations proposed in the work plan.

3.1 Soil Sampling

Boland Drilling, Inc., an Idaho licensed driller, advanced a total of 11 borings (BH-101 through BH-111) using a hollow-stem auger drill rig to total depths ranging from 15 to 19 feet below grade. The targeted depth was slightly below water-saturated conditions observed in the field. Borehole locations are shown on Figure 2, which also shows analytical results for total petroleum hydrocarbons (TPH) in the diesel (TPH-D) and motor oil (TPH-O) range. Analytical results are discussed in full in Section 4.0.

Each boring was continuously logged for lithology according to ASTM 2488 (Visual Manual Procedure) by an AMEC Certified Professional Soil Scientist. Boring logs are included as Attachment A.

The depth to groundwater was measured in the boreholes depths ranging from 12.9 to 18.5 feet below grade; depths were noted in each boring log. Depth of wet or water-saturated soil was also noted on each boring log. Boreholes BH-106 and BH-108 were drilled starting at surface elevations lower than the surface of Forest Highway 50. All other boreholes were advanced either through the surface of Highway 50, or on the shoulder less than 6 inches below the highway surface.

At each borehole, at least two soil samples were collected for laboratory testing. Samples from the boreholes were collected at depths of approximately 5 feet bgs and at the groundwater interface, as specified in the work plan. An additional sample was collected from each of boreholes BH-102, BH-104, BH-105, and BH-106 at the depth where petroleum impacts were observed in each borehole. An additional sample was also collected from BH-103 at an additional depth where petroleum impacts were observed in adjacent boreholes BH-102 and BH-104. Field observations, including visual evidence of petroleum contamination, are detailed in Section 4.0.

Soil samples were collected in accordance with the work plan, which specifies field methods for sample collection, sample designation, equipment decontamination, and documentation (AMEC, 2011). Samples were collected into laboratory-supplied amber glass jars with Teflon-lined lids. One field duplicate was collected at a depth of 12.2 feet in borehole BH-101, and project-specific matrix spike/matrix spike duplicate (MS/MSD) samples were collected in order to meet quality control objectives specified in the work plan.

The soil samples collected were analyzed for petroleum by the NWTPH-Dx method with silica gel cleanup, as specified in the work plan. Analyses were performed by Pace Analytical Services, Inc., of

Seattle, Washington. Analytical data and a summary data validation memorandum are provided in Attachment B.

3.2 Field Tests

Visual evidence of petroleum contamination was recorded by AMEC's soil scientist during soil logging. At each boring, a sheen test was conducted at 2.5-foot intervals by shaking approximately 10 grams of soil in water, as described in the work plan. Upon completion of the borehole, the depth to water and thickness of LNAPL (if any) was measured using an oil-water interface probe. The specific intervals and results of sheen testing are shown on the boring logs (Attachment A). Results are discussed in Section 4.0.

3.3 Surveying

Following field activities, borehole locations were recorded by Robert Peccia and Associates (RPA) using Trimble survey grade global positioning system (GPS) receivers to produce both horizontal and vertical results, referenced to the project control and accurate to within ±0.03 feet. These GPS data were used to plot the sampling locations shown on Figure 2.

4.0 RESULTS

This section summarizes the field observations from the investigation, describes the validation of the analytical data, and discusses the analytical results. Soil analytical data are presented in Table 1. A summary of laboratory results is included on Figure 2. Complete analytical laboratory reports and a data validation memorandum are included in Attachment B.

4.1 Field Observations

Field observations are provided in the boring logs in Appendix A and summarized in Table 2. This section presents an overview and brief discussion of the results.

Typical subsurface conditions encountered in the boreholes consisted of the following units:

- Sand and sandy gravel from near ground surface to depths ranging from approximately 5 feet to 10 feet below grade;
- Silty gravel and gravelly silt underlying the sand and gravel layer, to depths ranging from 11.5 feet to 17.8 feet below grade;
- Wet sandy materials underlying the silt and gravel unit, observed in all boreholes except BH-104, BH-105, and BH-106, and BH-110. In BH-104, BH-105, and BH-106, a clayey silt unit was observed beneath the silt and gravel unit. In BH-110, a layer of wood greater than 1 foot thick was observed beneath the silt and gravel unit.

A thin layer of black cindery material was observed in all boreholes except BH-102 and BH-106. This layer was typically observed at approximately 5 feet below grade.

A strong odor and positive sheen test results were identified on soil from boreholes BH-101 and BH-102, located near the former fuel tank and injection area on the FHWA right-of-way. Strong odor and positive sheen test results were also noted on soil from downgradient boreholes with a clayey silt

layer (BH-104, BH-105, and BH-106), but not in boreholes without this clayey silt layer. No odor or sheen was observed in the lower 2.4 feet of BH-105, beneath the clayey silt layer. A slight petroleum odor, but no sheen, was identified in borehole BH-108. No odor or sheen was observed in the remaining boreholes.

LNAPL was measured at thicknesses of 0.05 foot and less than 0.01 foot above the water in borehole BH-101 and BH-102, respectively. LNAPL was not observed on the water in any other boreholes.

4.2 Data Validation

The analytical results were subjected to a data quality assessment (DQA), and all data were deemed acceptable for use. The DQA is presented in Attachment B, including reference to the project, method, and EPA documents that guided data review. The diesel range result for the sample collected from BH-101 at a depth of 12.2 feet was qualified as estimated due to field duplicate precision outside of the acceptance range. No other data qualification was necessary.

4.3 Soil Analytical Results

Analytical results for soil are summarized in Table 1 and Figure 2. Petroleum hydrocarbons were detected at the shallow sampling interval of 5.0 or 6.0 feet in samples from 8 of the 11 boreholes. No TPH was detected in BH-103, BH-107, and BH-108. All but one of the shallow samples with detectable levels of petroleum consisted of black material with no petroleum odor or sheen; the sample from a depth of 6.0 feet in BH-102 consisted of dark grayish brown gravelly silt with a slight petroleum odor. Shallow black material was also encountered in BH-103, but the material did not contain detectable concentrations of petroleum constituents.

Petroleum hydrocarbons were detected in all samples collected from depths greater than 6 feet from boreholes BH-101, BH-102, BH-104, BH-105, and BH-106; except the deepest sample (16.5 feet bgs) from BH-105. The lack of petroleum detection near the bottom of borehole BH-105 corresponds with field observations of lack of petroleum odor or sheen at that location. The highest concentrations of petroleum hydrocarbons were detected in the sample collected from a depth of 11.0 feet in BH-106. The second highest concentrations of petroleum in samples collected below a depth of 6 feet occurred in the sample collected from BH-102 at a depth of 13.5 feet.

5.0 SUMMARY

Petroleum hydrocarbons (diesel and oil range) were detected in laboratory samples collected from at least one interval from each of the 11 borings on the FHWA right-of-way, except borings BH-103, BH-107, and BH-108. In general, the highest concentrations of petroleum hydrocarbons were observed in borings just downgradient of the location of the former 50,000-gallon fuel tank on the eastern side of the FHWA portion of the site.

Field observations indicate that visual impacts of petroleum are limited to the eastern portion of the site, surrounding and just downgradient of the former fuel tank area. Sample intervals having elevated concentrations of petroleum hydrocarbons in laboratory samples did not necessarily exhibit a positive sheen test, suggesting that petroleum hydrocarbons at these intervals are likely highly weathered and not mobile. These low-mobility hydrocarbons are unlikely to pose a risk to the St. Joe River.

A summary of visual petroleum impacts, including areas where free LNAPL (measured using an oil-water interface probe) and positive sheen test results were observed, is provided on Figure 3. Figure 3 also shows the estimated aerial extent of impacts of petroleum deemed to present an on-going risk to groundwater based on EPA's criteria for hydrocarbon mobility.

6.0 REFERENCES

AMEC Geomatrix, Inc. (AMEC), 2011, FHWA Right-of-Way Investigation Work Plan, Avery Landing, Avery, Idaho: Prepared for Western Federal Lands Highway Division, Vancouver, Washington, August.

Ecology and Environment, Inc., 2007, Removal Assessment Report, Avery Landing Site, Avery, Idaho: Prepared for the United States Environmental Protection Agency, Seattle, Washington, under Superfund Technical Assessment and Response Team contract EP-S7-06-02, Technical Direction Document 07-03-0004, July.

Ecology and Environment, Inc., 2010, Engineering Evaluation/Cost Analysis, Avery Landing Site, Avery, Idaho: Prepared for the United States Environmental Protection Agency, Seattle, Washington, Technical Direction Document 08-05-0006, December.

EPA (U.S. Environmental Protection Agency), 2008, Administrative Settlement Agreement and Order on Consent, Matter of Avery Landing Site, Avery, Idaho, CERCLA Docket No. CERCLA-10-2008-0135, U.S. Environmental Protection Agency, Region 10, Seattle, August 4.

EPA, 2011, Action Memorandum, July 5.

Golder (Golder Associates, Inc.), 2009, Final Engineering Evaluation/Cost Analysis Work Plan for the Avery Landing Site, Avery, Idaho: Prepared for Potlatch Forest Products Corporation, January.

Golder, 2010, Engineering Evaluation/Cost Analysis, Avery Landing Site, Avery, Idaho: Submitted to Potlatch Land and Lumber, LLC, January.

Enclosures:

Figure 1	Vicinity Map
Figure 2	Analytical Data for TPH
Figure 3	Field Observations (Sheen/LNAPL) and Estimated Plume Extent on FHWA Property
Table 1	Summary of Soil Analytical Results
Table 2	Summary of Field Observations
Attachment A	Boring Logs
Attachment B	Data Validation Memorandum and Laboratory Analytical Reports

FIGURES

Note: Base map from U.S.G.S. Avery and Fishhook Creek, Idaho Quadrangles (7.5' Map Series)

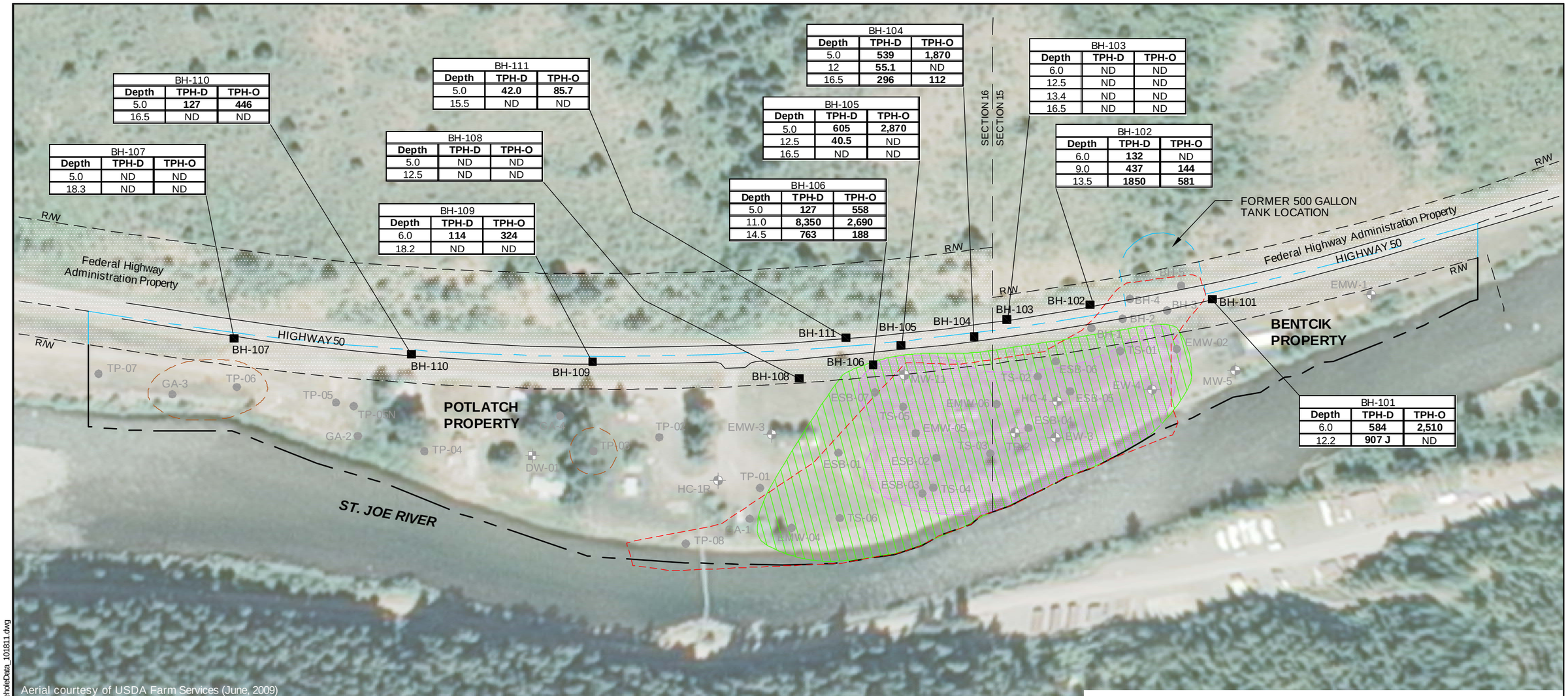
N

0 1,000 2,000 Feet

VICINITY MAP
Avery Landing Site
Avery, Idaho

By: APS	Date: 10/20/11	Project No. 16011
AMEC Geomatrix		Figure 1

S:\16011\001_CERCLA\GIS\Avery_VicinityMap.mxd



Aerial courtesy of USDA Farm Services (June, 2009)

KEY

Sample I.D.

Sample depths reported in feet below ground surface

BH-109		
Depth	**TPH-D**	**TPH-O**
6.0	**114**	**324**
18.2	ND	ND

BOLD value indicates detection
Concentrations in milligrams per kilogram (mg/kg)

TPH-D = Total Petroleum Hydrocarbon - Diesel
TPH-O = Total Petroleum Hydrocarbon - Oil
ND = not detected above reporting limit

KEY

- ESTIMATED FREE PRODUCT - (Hart Crowser 2000)
- ESTIMATED FREE PRODUCT - EPA (Ecology and Environment, Inc., 2007)
- ESTIMATED FREE PRODUCT - POTLATCH (Golder 2010)
- PETROLEUM HOT SPOT - EPA (Ecology and Environment, Inc., 2010)

NOTE:

1. Historical test locations and plume boundaries have been estimated based on the following report:
   DRAFT ENGINEERING EVALUATION/COST ANALYSIS
   Avery Landing Site
   Avery, Idaho
   TDD: 08-05-0006
   and should be considered a rough approximation.

EXPLANATION

- SOIL BORING LOCATION (2011)
- MONITORING/RECOVERY WELL LOCATION (2007)
- SOIL BORING LOCATION (2007,2009)
- DRINKING WELL LOCATION

SITE FEATURES

- CURRENT PROPERTY BOUNDARY
- HISTORIC POTLATCH PROPERTY LINE
- FHWA RIGHT-OF-WAY BOUNDARY (R/W)
- SECTION LINE (PROPERTY DIVISION LINE BETWEEN POTLATCH AND BENTCIK)

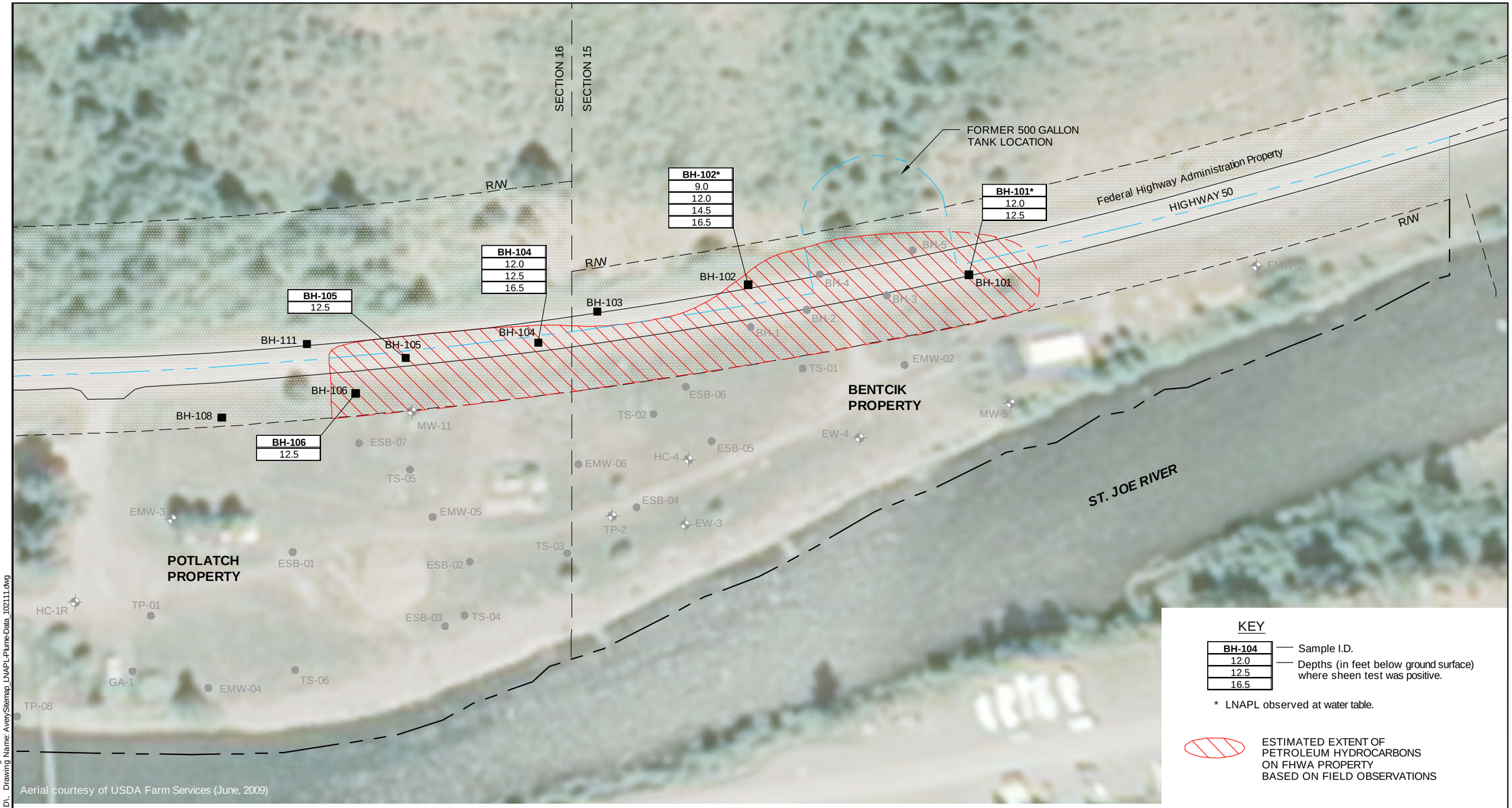
N

0 75 150
APPROXIMATE SCALE IN FEET

ANALYTICAL DATA FOR TPH
Avery Landing Site
Avery, Idaho

By: APS	Date: 10/21/11	Project No. 16011
AMEC Geomatrix	Figure 2	

Plot Date: 10/21/11 - 10:56am, Plotted by: adam.stenberg
Drawing Path: S:\16011\001_CERCLA\CAD\, Drawing Name: AverySitemap_BoreholeData_101811.dwg



KEY

BH-104
12.0
12.5
16.5

— Sample I.D.

— Depths (in feet below ground surface) where sheen test was positive.

* LNAPL observed at water table.

ESTIMATED EXTENT OF PETROLEUM HYDROCARBONS ON FHWA PROPERTY BASED ON FIELD OBSERVATIONS

NOTE:

1. Historical test locations have been estimated based on the following report:
   DRAFT ENGINEERING EVALUATION/COST ANALYSIS
   Avery Landing Site
   Avery, Idaho
   TDD: 08-05-0006
   and should be considered a rough approximation.

EXPLANATION

- SOIL BORING LOCATION (2011)
- MONITORING/RECOVERY WELL LOCATION (2007)
- SOIL BORING LOCATION (2007,2009)
- DRINKING WELL LOCATION

SITE FEATURES

- CURRENT PROPERTY BOUNDARY
- HISTORIC POTLATCH PROPERTY LINE
- FHWA RIGHT-OF-WAY BOUNDARY (R/W)
- SECTION LINE (PROPERTY DIVISION LINE BETWEEN POTLATCH AND BENTCIK)

N

0 40 80

APPROXIMATE SCALE IN FEET

FIELD OBSERVATIONS (SHEEN/LNAPL) AND ESTIMATED PLUME EXTENT ON FHWA PROPERTY

Avery Landing Site
Avery, Idaho

By: APS	Date: 10/21/11	Project No. 16011
AMEC Geomatrix		Figure 3

Plot Date: 10/21/11 - 11:47am, Plotted by: adam.stenberg
Drawing Path: S:\16011001_CERCLA\CAD\, Drawing Name: AverySitemap_LNAPL-Plume-Data_102111.dwg

TABLES

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS[1,2]

Avery Landing Site
Avery, Idaho

concentrations reported in milligrams per kilogram (mg/kg)

Boring ID	Sample Depth (feet bgs)	TPH-Diesel	TPH-Motor Oil
BH-101	6.0	**584**	**2,510**
	12.2	**388 J**	84.7 U
	DUP [3]	**907 J**	71.5 U
BH-102	6.0	**132**	72.7 U
	9.0	**437**	**144**
	13.5	**1,850**	**581**
BH-103	6.0	17.4 U	69.4 U
	12.5	16.7 U	66.6 U
	13.4	19.9 U	79.6 U
	16.5	17.3 U	69.4 U
BH-104	5.0	**539**	**1,870**
	12	**55.1**	71.1 U
	16.5	**296**	**112**
BH-105	5.0	**605**	**2,870**
	12.5	**40.5**	72.6 U
	16.5	17.4 U	69.5 U
BH-106	5.0	**127**	**558**
	11.0	**8,350**	**2,690**
	14.5	**763**	**188**
BH-107	5.0	17.6 U	70.5 U
	18.3	17.1 U	68.3 U
BH-108	5.0	17.5 U	70.1 U
	12.5	20.9 U	83.5 U
BH-109	6.0	**114**	**324**
	18.2	18.3 U	73.3 U
BH-110	5.0	**127**	**446**
	16.5	19.0 U	76.1 U
BH-111	5.0	**42.0**	**85.7**
	15.5	17.7 U	70.9 U

Notes
1. Detected concentrations shown in **bold** type.
2. Data qualifiers are as follows:
   J = value is an estimate.
   U = not detected at the reporting limit listed.
3. Duplicate sample collected with BH-101 at depth of 12.2 feet.

Abbreviations
bgs = below ground surface
mg/kg = milligrams per kilogram

TABLE 2

SUMMARY OF FIELD OBSERVATIONS

Avery Landing Site
Avery, Idaho

Borehole ID	Depth to Wet or Water-Saturated Soil (feet)	Depth to Water in Borehole (feet)	Depth(s) of Positive Sheen Test (feet)	Thickness of LNAPL on Borehole Water (feet)
BH-101	12.2	12.9	**12, 12.5**	**0.05**
BH-102	8.5 (wet) / 13.7 (water saturated)	15.11	**9, 12, 14.5, 16.5**	**Less than 0.01**
BH-103	13.4	16.93	None	None
BH-104	11.9 (wet) / 16.4 (water saturated)	17.1	**12, 12.5, 16.5**	None
BH-105	13	16.81	**12.5**	None
BH-106	10.3 to 15.4 (very moist to wet)	15.8	**12.5**	None
BH-107	18.5	18.5	None	None
BH-108	12.5	13.95	None	None
BH-109	17.8	18.40	None	None
BH-110	16.0 (very moist, wood below 17.3 feet)	18.3	None	None
BH-111	15.7	15.58	None	None

Abbreviations
LNAPL = light nonaqueous-phase liquid

ATTACHMENT A

Boring Logs

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-101**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/22/11 / DATE FINISHED: 9/22/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 15.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 12.2 / COMPL.: 12.9
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO. CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					Asphalt.	
1			15		SILTY GRAVEL (GM): yellowish brown and strong brown (10YR 5/4 and 7.5YR 4/6), Slightly moist, angular, poorly sorted, no petroleum odor.	No sheen @ 1'
2			30			
3			14			
4			15			
			12			
5			10			No sheen @ 5'
			14			
6	BH-101-6.0		34		GRAVELLY SILT (ML): black (10YR 2/1), Slightly moist, subangular, poorly sorted, no petroleum odor. Contains cindery material.	No sheen @ 6'
			21			
7			28		SILTY GRAVEL (GM): dark yellowish brown (10YR 4/6), Slightly moist, subangular, poorly sorted, no petroleum odor.	No sheen @ 7.5'
			10			
8			8			No sheen @ 8.5'
			4			
9			2		GRAVELLY SILT (ML): very dark grayish brown (10YR 3/2), Moist, subangular, well sorted, fine gravel, no petroleum odor. Increasing clay content with depth. Brown (10YR 4/3) mottling.	
			1			
10			2			No sheen @ 10'
			3			
11			6		SILTY SAND (GM): dark yellowish brown (10YR 4/6), Slighty moist, subangular, poorly sorted, no petroleum odor.	
			5			
12	BH-101-12.2 and DUP		2			Sheen @ 12'
			3		FINE SAND WITH SILT (SM): dark gray (10YR 4/1), Wet, strong petroleum odor and sheen on soil.	Sheen @ 12.5'
			6			
13			5		SANDY GRAVEL (GW): dark gray (10YR 4/1), Water saturated, subangular, poorly sorted fine gravel, strong petroleum odor and sheen on soil.	Depth of petroleum measured using oil-water interface probe: 12.85' (product thickness 0.05 feet)
			8			
14			3		SILT (ML): very dark gray (10YR 3/1), Moist, slight petroleum odor.	No sheen @ 14.5'
			2			
15						

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PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-101 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
					Borehole terminated at 15.0 feet, 13:25, 9/22/11. Backfilled with cuttings.		
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-102**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/22/11 / DATE FINISHED: 9/22/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 17.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 8.5 / COMPL.: 15.11
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO. CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					SANDY GRAVEL (GW): brown (10YR 5/4), Angular well graded (poorly sorted), no petroleum odor.	
			5			
1			27			
2			34			No sheen @ 2'
			28			
3			16			
			20			
4			19			
			20		GRAVELLY SILT (ML): dark grayish brown (2.5Y 4/2), Slightly moist, subangular well sorted fine gravel, slight petroleum odor, increasing odor with depth to strong odor at 8.5 feet.	
5			11			No sheen @ 5'
	BH-102-6.0		8			
6			5			
			5			
7			3			
			2			No sheen @ 7.5'
8			2			
			2		SILTY GRAVEL (GW): very dark gray (10YR 3/1), Wet, angular poorly sorted, strong petroleum odor.	
9			1			Sheen @ 9'
	BH-102-9.0		1			
10			2			
			6			
11			5			
			6			
12			13			Sheen @ 12'
			16			
13			16			
	BH-102-13.5		7			
14			6		SILT with FINE SAND (ML): very dark gray (10YR 3/1), Water-saturated, strong petroleum odor.	
			8			
15			12			Sheen @ 14.5'

PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-102 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16			7 12 13 12		GRAVELLY SAND (SW): dark gray (10YR 4/1), Water-saturated, angular well sorted fine gravel, strong petroleum odor.		Depth of petroleum measured using oil-water interface probe: 15.11 (product thickness less than 1/8 inch) Sheen @ 16.5'
17					Borehole terminated at 17.0 feet, 8:25, 9/22/11. Backfilled with cuttings.		
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-103**	
BORING LOCATION:	ELEVATION AND DATUM:	
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/22/11	DATE FINISHED: 9/22/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 17.0	MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 13.4	COMPL.: 16.93
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach	
HAMMER WEIGHT: 140 lbs. DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach	REG. NO.: CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					SANDY SILT with GRAVEL (ML): dark yellowish brown (10YR 4/4), Slightly moist, subrounded well sorted fine gravel, no petroleum odor.	
1			16		SILTY GRAVEL (GM): strong brown (7.5YR 4/6), Slightly moist, angular poorly sorted, no petroleum odor.	
2			15			
			20			
3			24			No sheen @ 2.5'
			21			
4			25			
			25			
5			37			
			11			No sheen @ 5'
6	BH-103-6.0		9			
			8		Wood ash/ cindery material. Black.	No sheen @ 6'
7			7		SILTY GRAVEL (GM): dark yellowish brown (10YR 4/4), Slightly moist, subangular, poorly sorted, no petroleum odor.	
			10			
8			7			No sheen @ 7.5'
			8			
9			8			
			8			
10			7			
			8			No sheen @ 10'
11			10		▼ Moist and yellowish brown (10YR 5/6)	
			6			
12			5			
	BH-103-12.5		5			
13			6			No sheen @ 12.5'
	BH-103-13.4		2			
14			5		FINE SAND (SP): yellowish brown (10YR 5/6), Water-saturated, no petroleum odor.	No sheen @ 13.5'
			6			
15			10			

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PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-103 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16	BH-103-16.5		14 9 12 17		GRAVELLY SAND (SW): dark gray (2.5Y 4/1), Subangular well sorted fine gravel, no petroleum odor.		No sheen @ 15' No sheen @ 16.5'
17					Borehole terminated at 17.0 feet, 10:10, 9/22/11. Backfilled with cuttings.		No free LNAPL was measured using an oil-water interface probe.
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-104**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/21/11 / DATE FINISHED: 9/21/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 17.5 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 11.9 / COMPL.: 17.1
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO.: CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					Asphalt	
1			22		GRAVELLY SAND or SANDY GRAVEL (SW or GW): light yellowish brown (10YR 6/4), Dry, angular poorly sorted fine gravel, no petroleum odor.	No sheen @ 1'
2						
3			18			
4			50			
			34			
5	BH-104-5.0		29			
			25		SANDY GRAVEL (GW): black (10YR 2/1), Slightly moist, angular poorly sorted, no petroleum odor.	No sheen @ 5'
6			50			
			52			
7			26		GRAVELLY SILT (ML): yellowish brown (10YR 5/4), Slightly moist, subangular poorly sorted fine gravel, no petroleum odor.	
			12			
8			14			No sheen @ 7.5'
			13			
9			7		Very moist and dark grayish brown	
			3			
10			5			
			4			No sheen @ 10'
11			5			
			3			
12	BH-104-12.0		4		Wet, yellowish brown and moderate petroleum odor	Slight sheen @ 12'
			4		SANDY GRAVEL WITH SILT (GW): gray (10YR 5/1), Moist, subangular poorly sorted, moderate petroleum odor.	Slight sheen @ 12.5'
13			6			
			17			
14			9		CLAYEY SILT (MH): dark gray (10YR 4/1), Moist, slight aged petroleum odor.	
			4			No sheen @ 14'
15			3			

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PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-104 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16	BH-104-16.5		11 18 31				No sheen @ 15'
17			36		SANDY GRAVEL (GW): brown (10YR 4/3), Water-saturated, strong petroleum odor and sheen on soil, angular, poorly sorted.		Slight sheen @ 16.5'
18					Borehole terminated at 17.5 feet, 17:35, 9/21/11. Backfilled with cuttings, with an asphalt cold patch to 0.3 feet bgs.		No free LNAPL was measured using an oil-water interface probe.
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-105**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/21/11 / DATE FINISHED: 9/21/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 17.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 13 / COMPL.: 16.81
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO.: CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
					Asphalt.	
1			17		SILTY GRAVEL (GM): yellowish brown (10YR 5/6), Dry to slightly moist, angular, poorly sorted, no petroleum odor.	
2			46			
			41			
3			50			No sheen @ 2.5'
			45			
4			50			
5	BH-105-5.0		13		GRAVELLY SAND WITH SILT (SW): black (10YR 2/1), Slightly moist, subrounded poorly sorted fine gravel, no petroleum odor.	No sheen @ 5'
6			27			
			30			
7			19		GRAVELLY SILT (ML): yellowish brown (10YR 5/4), Slightly moist, angular poorly sorted fine gravel, no petroleum odor.	
			11			
8			16			No sheen @ 7.5'
			10			
9			6			
10					SILTY GRAVEL (GM): dark grayish brown (2Y 4/2), Very moist, angular, poorly sorted. No petroleum odor.	No sheen @ 10'
11			15		Strong petroleum odor	
			8			
12	BH-105-12.5		14			
			8		Black	Sheen @ 12.5'
13			1		CLAYEY SILT (MH): dark gray (10YR 4/1), Water-saturated, slight fine roots, slight petroleum odor.	
			2			
14			5			
15			6			

PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-105 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16	BH-105-16.5		6 15 19 17		SANDY GRAVEL (GW): strong brown (7.5YR 4/6), Dry, angular, poorly sorted, no petroleum odor.		No sheen @ 15'
17					Borehole terminated at 17 feet, 15:20, 9/21/11. Backfilled with cuttings, with an asphalt cold patch to 0.3 feet bgs.		No free LNAPL was measured using an oil-water interface probe.
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-106**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/21/11 / DATE FINISHED: 9/21/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 16.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 10.3 / COMPL.: 15.8
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO.: CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					SILTY GRAVEL (GM): brown (10YR 4/3), Dry, subrounded, no petroleum odor.	
1			8		SANDY GRAVEL (GW): brown (10YR 5/3), Dry, angular, poorly sorted, slight brick fragments (<1%) and black cindery material (10%). No petroleum odor.	
2			16			
			9			No sheen @ 2'
3			50			
			17			
4			24			
			19			
5	BH-106-5.0		27			No sheen @ 4.5'
6					GRAVELLY SILT (ML): dark yellowish brown (10YR 4/6), Slightly moist, well sorted angular fine gravel, no petroleum odor.	
7			7			
			6			No sheen @ 7.5'
8			5			
9			6			
			3			
10			4			
			4			No sheen @ 10'
11	BH-106-11.0		5		SILTY GRAVEL (GM): dark gray (10YR 4/1), Very moist to wet, angular, poorly sorted, strong petroleum odor.	
			2			
12			2			
			1			
13			2			Slight oil droplets @ 12.5'
			1			
14	BH-106-14.5		1		Black with sheen on soil	
			1			
15			1			

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PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-106 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
			2				No sheen @ 15'
			1		CLAYEY SILT (MH): dark gray (10YR 4/1), Moist, moderate petroleum odor.		
16					Borehole terminated at 16.0 feet, 13:30, 9/21/11. Backfilled with cuttings.		
17							No free LNAPL was measured using an oil-water interface probe.
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-107**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/20/11 / DATE FINISHED: 9/20/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 19.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 18.5 / COMPL.: 18.5
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO. CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Angular gravel.	
1	BH-107-5.0		15		SILTY GRAVEL (GM): strong brown (7.5YR 4/6), Slightly moist, angular, poorly sorted, iron staining, no petroleum odor.	
2						
3						No sheen @ 2.5'
4					SILTY COBBLE (GM): light brown (7.5YR 6/4), Dry, angular, well sorted, no petroleum odor.	
5		■	17			No sheen @ 5'
6			38 34			
7			50 22		GRAVELLY SILT (ML): very dark greenish gray (10Y 3/1), Slightly moist, subrounded, well sorted, no petroleum odor. Slight wood and ash fragments (<5%).	
8			27 23			No sheen @ 7.5'
9			17 4			
10			6 5		GRAVELLY SILT (ML): strong brown (7.5YR 4/6), Slightly moist, subangular, poorly sorted, brick fragments present (<5%), no petroleum odor.	No sheen @ 10'
11			4 5			
12			5 7		POORLY GRADED SAND (SP): strong brown (7.5YR 4/6), Slightly moist, no petroleum odor, homogeneous.	
13			5 2			No sheen @ 13'
14			3 4			
15			4			

PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-107 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16	BH-107-18.3		4 7 6		SILTY GRAVEL to GRAVELLY SILT (GM-ML): strong brown (7.5YR 4/6), Moist, angular gravel, no petroleum odor. Increasingly gravelly with depth.		No sheen @ 15'
17			5 2				
18			6 7				No sheen @ 17.5'
19			5		Water-saturated Borehole to total depth 19 feet, 15:35, 9/20/11. Backfilled with cuttings.		No free LNAPL was measured using an oil-water interface probe.
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

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PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-108**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/21/11 / DATE FINISHED: 9/21/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 15.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 12.5 / COMPL.: 13.95
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO.: CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					GRAVELLY SILT (ML): very dark grayish brown (10YR 3/2), Dry, subangular, no petroleum odor.	
1			2			
			35			
2			55		WELL GRADED GRAVEL (GW): pale brown (10YR 6/3), Dry, angular, poorly sorted, no organic matter, no petroleum odor.	
			47			No sheen @ 2.5'
3			12			
			13		SILTY GRAVEL (GM): strong brown (7.5YR 4/6), Slightly moist, angular, poorly sorted, no petroleum odor.	
4			9			
	BH-108-5.0		9			
5			4			No sheen @ 5'
			6			
6			6			
			7		GRAVELLY SILT (ML): yellowish brown (10YR 5/4), Dry, angular, well sorted, fine gravel, no petroleum odor.	
7			4			
			5			No sheen @ 7.5'
8			4			
			7		Wood ash/ cindery material. Black.	
9			5		SILTY GRAVEL (GM): yellowish brown (10YR 5/4), Slightly moist, angular, well sorted, no petroleum odor.	
			2			
10			1			No sheen @ 10'
			1			
11			0.5			
			0.5			
12			0.5			No sheen @ 12'
	BH-108-12.5		1		SILTY FINE SAND (SM): dark gray (10YR 4/1), Wet, slight aged hydrocarbon odor.	
13			3			
			17			
14			21		SANDY FINE GRAVEL (GW): light olive brown (2.5Y 5/3), Water-saturated, angular, poorly sorted, slight aged hydrocarbon odor.	
			12			No sheen @ 14.5'
15						

PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-108 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16					Borehole terminated at 15.0 feet, 11:00, 9/21/11. Backfilled with cuttings.		No free LNAPL was measured using an oil-water interface probe.
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-109**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/21/11 / DATE FINISHED: 9/21/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 19.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 17.8 / COMPL.: 18.4
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO. CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt.	
1					SANDY GRAVEL WITH SILT (GW): strong brown (7.5YR 4/6), Slightly moist, subangular, poorly sorted, no petroleum odor.	
2						
3						
4						
5			19			
6	BH-109-6.0	■	20 20		SANDY GRAVEL (GW): black (10YR 2/1), Slightly moist, subrounded, poorly sorted, no petroleum odor.	No sheen @ 6'
7			17 4			
8			4 9		Wood ash/ cindery material. Black.	No sheen @ 7.5'
9			9		SANDY SILT (ML): yellowish brown (10YR 5/6), Slightly moist, no petroleum odor. Slightly angular, poorly sorted, fine gravel.	
10			8 7			No sheen @ 10'
11			6 7			
12			1 2			No sheen @ 12'
13			2 2			
14			3 3			
15			4 3		▼ Moist with orange mottling	

OAKBOREV (REV. 8/2007)

PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-109 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16	BH-109-18.2		2 4 7		SILTY GRAVEL (GM): yellowish brown (10YR 5/4), Very moist, angular coarse gravel, well sorted, no petroleum odor.		No sheen @ 15'
17			7 6				
18			11 11		GRAVELLY SAND (SW): brown (10YR 5/3), Wet, subangular gravel, well sorted, no petroleum odor.		No sheen @ 17.5'
19			11		Borehole terminated at 19.0 feet, 8:35, 9/21/11. Backfilled with cuttings, with an asphalt cold patch to 0.2 feet bgs.		No free LNAPL was measured using an oil-water interface probe.
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-110**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/20/11 / DATE FINISHED: 9/20/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 18.5 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 18.3 / COMPL.: 18.3
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO. CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt	
1					SANDY GRAVEL (GW): strong brown (7.5YR 4/6), Slightly moist, angular, poorly sorted, no petroleum odor. (Possibly road base).	
2						
3						
4						
5	BH-110-5.0	■	6			No sheen @ 5'
6			25			
			24			
7			21			
			16			
8			9			No sheen @ 7.5'
			12			
9			13			
			9			
10			12		Wood ash/ cindery material. Black.	
			15		SILTY GRAVEL with FINE SAND (GM): yellowish brown (10YR 5/6), Slightly moist, subangular, well sorted, no petroleum odor.	No sheen @ 10'
11			16			
			5			
12			5			
			3			
13			4			No sheen @ 12.5'
			2			
14			2			
			1			
15			1			

OAKBOREV (REV. 8/2007)

PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-110 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
16	BH-111-16.5		2 3 9 8		⊤ Very moist		No sheen @ 15'
17					Wood		
18					Borehole terminated at 18.5 feet, 17:15, 9/20/11. Backfilled with cuttings, with an asphalt cold patch to 0.2 feet bgs.		No free LNAPL was measured using an oil-water interface probe.
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

PROJECT: September 2011 Row Soil Sampling Avery Landing	**Log of Boring No. BH-111**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Boland	DATE STARTED: 9/22/11 / DATE FINISHED: 9/22/11
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 17.0 / MEASURING POINT:
DRILLING EQUIPMENT: Foremost Mobile B-59	DEPTH TO WATER (ft.) FIRST: 15.7 / COMPL.: 15.58
SAMPLING METHOD: Split spoon	LOGGED BY: WR Welzenbach
HAMMER WEIGHT: 140 lbs. / DROP: 30"	RESPONSIBLE PROFESSIONAL: WR Welzenbach / REG. NO.: CPSS 329175

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1			2		SILTY GRAVEL (GM): brown (10YR 4/3), Slightly moist, subangular, poorly sorted, no petroleum odor.	
2			50		Dark yellowish brown (10YR 4/6)	No sheen @ 1.5'
3			10			
4			16 28			
5	BH-111-5.0		20 17		GRAVELLY SILT (ML): black (10YR 2/1), Slightly moist, subangular well sorted fine gravel, no petroleum odor.	No sheen @ 5'
6			18 20		GRAVELLY SILT (ML): dark yellowish brown (10YR 4/6), Slightly moist, subangular well sorted fine gravel, no petroleum odor.	
7			19 10			
8			9 8			No sheen @ 7.5'
9			5 8			
10			12 14			No sheen @ 10'
11			12 9			
12			8 10			No sheen @ 12'
13			10 9			
14			14 14			
15			8			

PROJECT: September 2011 Row Soil Sampling
Avery Landing

Log of Boring No. BH-111 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		REMARKS
	BH-111-15.5		4				No sheen @ 15'
16			4		SILTY FINE SAND (SM): strong brown (7.5YR 4/6), Water-saturated, no petroleum odor.		BH-111-15.5 includes extra volume for MS/MSDs
			2				
17			3				No sheen @ 16.5'
					Borehole terminated at 17.0 feet, 11:45, 9/22/11. Backfilled with cuttings.		
18							
19							
20							
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27							
28							
29							
30							
31							
32							
33							

ATTACHMENT B

Data Validation Memorandum and Laboratory Analytical Reports

Memo

To:	Naila Moreira	Project:	SE1016011
From:	Crystal Neirby	cc:	Project File
Tel:	(206) 342-1760		
Fax:	(206) 342-1761		
Date:	October 10, 2011		

Subject: Avery Landing – September 2011 Soil Sampling
Summary Data Quality Review – SDG 259349

This memorandum presents a summary data quality review for analyses of 28 primary soil samples and one soil field duplicate collected between September 20 and 22, 2011. The samples were submitted to Pace Analytical Services, Inc., a Washington State Department of Ecology (Ecology) certified laboratory, located in Seattle, Washington. The samples were analyzed for total petroleum hydrocarbons (TPH) as diesel (TPH-D) and motor oil (TPH-O) by Ecology Method NWTPH-Dx both with and without silica gel cleanup.

The sample IDs, sample collection date, and laboratory sample ID are listed in the table below.

Sample ID	Sample Collection Date	Laboratory Sample ID
BH-101, 6.0	9/22/2011	259349001
BH-101, 12.2	9/22/2011	259349002
BH-102, 6.0	9/22/2011	259349003
BH-102, 9.0	9/22/2011	259349004
BH-102, 13.5	9/22/2011	259349005
BH-103, 6.0	9/22/2011	259349006
BH-103, 12.5	9/22/2011	259349007
BH-103, 13.4	9/22/2011	259349008
BH-103, 16.5	9/22/2011	259349009
BH-104, 5.0	9/21/2011	259349010
BH-104, 12.0	9/21/2011	259349011
BH-104, 16.5	9/21/2011	259349012
BH-105, 5.0	9/21/2011	259349013
BH-105, 12.5	9/21/2011	259349014
BH-105, 16.0	9/21/2011	259349015
BH-106, 5.0	9/21/2011	259349016
BH-106, 11.0	9/21/2011	259349017
BH-106, 14.5	9/21/2011	259349018
BH-107, 5.0	9/20/2011	259349019

AMEC Environment & Infrastructure
600 University Street, Suite 600
Seattle, Washington
USA 98101-4107
Tel (206) 342-1760
Fax (206) 342-1761
www.amec.com

Sample ID	Sample Collection Date	Laboratory Sample ID
BH-107, 18.3	9/20/2011	259349020
BH-108, 5.0	9/21/2011	259349021
BH-108, 12.5	9/21/2011	259349022
BH-109, 6.0	9/21/2011	259349023
BH-109, 18.2	9/21/2011	259349024
BH-110, 5.0	9/20/2011	259349025
BH-110, 16.5	9/20/2011	259349026
BH-111, 5.0	9/22/2011	259349027
BH-111, 15.5	9/22/2011	259349028
DUP	--	259349029

Upon receipt by the laboratory, the sample jar information was compared to the chain-of-custody forms. The temperatures of the coolers were recorded as part of the check-in procedure, and were less than the maximum acceptable temperature of 6°C. The laboratory noted a 5-minute discrepancy in the sample times for samples BH-103, 16.5 and BH-110, 16.5. AMEC project personnel were notified of the discrepancies via email, and the laboratory proceeded with analyses based on the information provided to them.

The sample extracts were initially analyzed between September 27 and October 1, 2011. The sample extracts were then reanalyzed after a silica gel cleanup procedure was performed, in compliance with the QAPP. All of the analyses were performed within the holding time. The initial analyses performed without silica gel cleanup are not reported, as they were not in project compliance. The results were included in the data package; however, the results were not reviewed, were not included in the report, and are not included further in this data review memo. The results are flagged “DNR” for “do not report” to reflect that they are not included.

The analytical results for these samples were reviewed in accordance with the requirements specified in U.S. Environmental Protection Agency (EPA) National Functional Guidelines (EPA, 2008), the analytical methods referenced by the laboratory, AMEC data review procedures, the project-specific Quality Assurance Project Plan (QAPP) (AMEC, 2011), and the laboratory quality control limits. The EPA guidelines referenced above were written specifically for the Contract Laboratory Program, and have been modified for the purposes of this data quality review where they differ from requirements for Ecology’s NWTPH method.

The certified laboratory reports were reviewed to assess the following: chain-of-custody compliance; holding time compliance; presence or absence of laboratory contamination as demonstrated by method blanks; laboratory control samples (LCS); analytical precision as the relative percent (%) difference between replicate sample results (i.e., laboratory and field duplicates) surrogate recoveries; and reporting limits and laboratory qualifiers. This data quality review did not include review of the raw analytical data.

Samples were analyzed using the methods identified in the introduction to this report and were evaluated for the following criteria.

1. Holding Times – Acceptable
2. Blanks – Acceptable.
3. LCS – Acceptable.
4. Laboratory Duplicates – Acceptable
5. Field Duplicates – Acceptable

   Sample DUP was collected as the field duplicate of sample BH-101, 12.2. Detected results and the relative percent differences (RPDs) for the primary and field duplicate samples are summarized in the following table. Precision values exceeded the limits for data usability of 50 percent for concentrations greater than five times the reporting limit. For results less than five times the reporting limit, the absolute value of the difference between the primary and duplicate was less than the value of the reporting limit. The diesel results in samples BH-101, 12.2 and DUP are qualified as estimated and flagged with a "J" due to the high field duplicate RPD.

Analyte	Reporting Limit	Primary Result	Duplicate Result	RPD	Qualification
TPH-Diesel	21.2	388	907	80	primary and duplicate qualified as estimated.
TPH-Motor Oil	84.7	ND	ND	NC	none

Notes
NC = Not Calculated.
ND = Not Detected.
Units expressed as mg/kg unless otherwise indicated.

6. Surrogates – Acceptable
7. Reporting Limits and Laboratory Flags – Acceptable.

OVERALL ASSESSMENT OF DATA

The data reported under Pace project number 259349 are 100% complete. Assessment of the data usability is based on EPA's guidance documents. Few problems were identified and analytical performance was generally within specified limits. The data are acceptable and meet the project's data quality objectives.

TABLE 1

SAMPLE IDENTIFICATIONS AND QUALIFIED RESULTS

Sample ID	Qualified Analyte	Qualified Result	Units	Qualifier Reason
BH-101, 6.0	none			
BH-101, 12.2	diesel range	388 J	mg/kg	field duplicate RPD
BH-102, 6.0	none			
BH-102, 9.0	none			
BH-102, 13.5	none			
BH-103, 6.0	none			
BH-103, 12.5	none			
BH-103, 13.4	none			
BH-103, 16.5	none			
BH-104, 5.0	none			
BH-104, 12.0	none			
BH-104, 16.5	none			
BH-105, 5.0	none			
BH-105, 12.5	none			
BH-105, 16.0	none			
BH-106, 5.0	none			
BH-106, 11.0	none			
BH-106, 14.5	none			
BH-107, 5.0	none			
BH-107, 18.3	none			
BH-108, 5.0	none			
BH-108, 12.5	none			
BH-109, 6.0	none			
BH-109, 18.2	none			
BH-110, 5.0	none			
BH-110, 16.5	none			
BH-111, 5.0	none			
BH-111, 15.5	none			
DUP	diesel (SG)	907 J	mg/kg	field duplicate RPD

Notes
RPD = relative percent difference
J = result is estimated
mg/kg = milligrams per kilogram

REFERENCES

AMEC, 2011, Quality Assurance Project Plan, Appendix A to the FHWA Right-of-Way Investigation, Prepared for Western Federal Lands Highway Division, Vancouver, Washington, August.

EPA (U.S. Environmental Protection Agency), 2008, U.S. EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review: EPA 540-R-08-001, June.

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October 14, 2011

Naila Moreira
AMEC
600 University Suite 600
Seattle, WA 98101

RE: Project: Avery Landing
Pace Project No.: 259349

Dear Naila Moreira:
Enclosed are the analytical results for sample(s) received by the laboratory on September 24, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Amended Report, REV-1 10/11/11. Client added Silica Gel cleanup to the NWTPHDx.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Andy Brownfield

Andy Brownfield

andy.brownfield@pacelabs.com
Project Manager

Enclosures

cc: Gary Dupuy, AMEC
Wilhelm Welzenbach, AMEC

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CERTIFICATIONS

Project: Avery Landing
Pace Project No.: 259349

Washington Certification IDs
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Arizona Certification #: AZ0770
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C555

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SAMPLE ANALYTE COUNT

Project: Avery Landing
Pace Project No.: 259349

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
259349001	**BH-101, 6.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349002	**BH-101, 12.2**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349003	**BH-102, 6.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349004	**BH-102, 9.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349005	**BH-102, 13.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349006	**BH-103, 6.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349007	**BH-103, 12.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349008	**BH-103, 13.4**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349009	**BH-103, 16.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349010	**BH-104, 5.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349011	**BH-104, 12.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349012	**BH-104, 16.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349013	**BH-105, 5.0**	NWTPH-Dx	AY1	4	PASI-S

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SAMPLE ANALYTE COUNT

Project: Avery Landing
Pace Project No.: 259349

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349014	**BH-105, 12.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349015	**BH-105, 16.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349016	**BH-106,5.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349017	**BH-106, 11.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349018	**BH-106, 14.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349019	**BH-107, 5.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349020	**BH-107, 18.3**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349021	**BH-108, 5.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349022	**BH-108, 12.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349023	**BH-109, 6.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349024	**BH-109, 18.2**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349025	**BH-110, 5.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S

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SAMPLE ANALYTE COUNT

Project: Avery Landing
Pace Project No.: 259349

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		ASTM D2974-87	KJ1	1	PASI-S
259349026	**BH-110, 16.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349027	**BH-111, 5.0**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349028	**BH-111, 15.5**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S
259349029	**DUP**	NWTPH-Dx	AY1	4	PASI-S
		NWTPH-Dx	DMT	4	PASI-S
		ASTM D2974-87	KJ1	1	PASI-S

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-101, 6.0 **Lab ID: 259349001** Collected: 09/22/11 12:55 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**1000**	mg/kg DNR	166	10	09/27/11 12:20	09/29/11 23:44		
Motor Oil Range	**4570**	mg/kg DNR	662	10	09/27/11 12:20	09/29/11 23:44	64742-65-0	
n-Octacosane (S)	0	%	50-150	10	09/27/11 12:20	09/29/11 23:44	630-02-4	S4
o-Terphenyl (S)	0	%	50-150	10	09/27/11 12:20	09/29/11 23:44	84-15-1	S4
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**584**	mg/kg	16.6	1	09/27/11 12:20	10/13/11 00:57		
Motor Oil Range SG	**2510**	mg/kg	66.2	1	09/27/11 12:20	10/13/11 00:57	64742-65-0	
n-Octacosane (S) SG	76	%	50-150	1	09/27/11 12:20	10/13/11 00:57	630-02-4	
o-Terphenyl (S) SG	89	%	50-150	1	09/27/11 12:20	10/13/11 00:57	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**9.4**	%	0.10	1		09/27/11 15:32		

Sample: BH-101, 12.2 **Lab ID: 259349002** Collected: 09/22/11 13:15 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**430**	mg/kg DNR	21.2	1	09/27/11 12:20	09/28/11 19:46		
Motor Oil Range	ND	mg/kg ↓	84.7	1	09/27/11 12:20	09/28/11 19:46	64742-65-0	
n-Octacosane (S)	85	%	50-150	1	09/27/11 12:20	09/28/11 19:46	630-02-4	
o-Terphenyl (S)	90	%	50-150	1	09/27/11 12:20	09/28/11 19:46	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**388**	mg/kg J	21.2	1	09/27/11 12:20	10/13/11 01:21		
Motor Oil Range SG	ND	mg/kg	84.7	1	09/27/11 12:20	10/13/11 01:21	64742-65-0	
n-Octacosane (S) SG	80	%	50-150	1	09/27/11 12:20	10/13/11 01:21	630-02-4	
o-Terphenyl (S) SG	80	%	50-150	1	09/27/11 12:20	10/13/11 01:21	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**26.7**	%	0.10	1		09/27/11 15:33		

Sample: BH-102, 6.0 **Lab ID: 259349003** Collected: 09/22/11 07:50 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**163**	mg/kg DNR	18.2	1	09/27/11 12:20	09/29/11 21:13		
Motor Oil Range	**112**	mg/kg ↓	72.7	1	09/27/11 12:20	09/29/11 21:13	64742-65-0	
n-Octacosane (S)	102	%	50-150	1	09/27/11 12:20	09/29/11 21:13	630-02-4	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-102, 6.0 **Lab ID: 259349003** Collected: 09/22/11 07:50 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3546					
o-Terphenyl (S)	103	%	50-150	1	09/27/11 12:20	09/29/11 21:13	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3546					
Diesel Range SG	**132**	mg/kg	18.2	1	09/27/11 12:20	10/13/11 01:45		
Motor Oil Range SG	ND	mg/kg	72.7	1	09/27/11 12:20	10/13/11 01:45	64742-65-0	
n-Octacosane (S) SG	90	%	50-150	1	09/27/11 12:20	10/13/11 01:45	630-02-4	
o-Terphenyl (S) SG	88	%	50-150	1	09/27/11 12:20	10/13/11 01:45	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.4**	%	0.10	1		09/27/11 15:33		

Sample: BH-102, 9.0 **Lab ID: 259349004** Collected: 09/22/11 08:00 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3546					
Diesel Range	**412**	mg/kg DNR	18.8	1	09/27/11 12:20	09/29/11 21:30		
Motor Oil Range	**193**	mg/kg J	75.3	1	09/27/11 12:20	09/29/11 21:30	64742-65-0	
n-Octacosane (S)	83	%	50-150	1	09/27/11 12:20	09/29/11 21:30	630-02-4	
o-Terphenyl (S)	84	%	50-150	1	09/27/11 12:20	09/29/11 21:30	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3546					
Diesel Range SG	**437**	mg/kg	18.8	1	09/27/11 12:20	10/13/11 02:58		
Motor Oil Range SG	**144**	mg/kg	75.3	1	09/27/11 12:20	10/13/11 02:58	64742-65-0	
n-Octacosane (S) SG	91	%	50-150	1	09/27/11 12:20	10/13/11 02:58	630-02-4	
o-Terphenyl (S) SG	92	%	50-150	1	09/27/11 12:20	10/13/11 02:58	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.9**	%	0.10	1		09/27/11 15:34		

Sample: BH-102, 13.5 **Lab ID: 259349005** Collected: 09/22/11 08:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3546					
Diesel Range	**880**	mg/kg DNR	19.6	1	09/27/11 12:20	09/29/11 21:46		
Motor Oil Range	**394**	mg/kg J	78.3	1	09/27/11 12:20	09/29/11 21:46	64742-65-0	
n-Octacosane (S)	79	%	50-150	1	09/27/11 12:20	09/29/11 21:46	630-02-4	
o-Terphenyl (S)	85	%	50-150	1	09/27/11 12:20	09/29/11 21:46	84-15-1	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-102, 13.5 **Lab ID: 259349005** Collected: 09/22/11 08:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**1850**	mg/kg	19.6	1	09/27/11 12:20	10/13/11 03:22		
Motor Oil Range SG	**581**	mg/kg	78.3	1	09/27/11 12:20	10/13/11 03:22	64742-65-0	
n-Octacosane (S) SG	89	%	50-150	1	09/27/11 12:20	10/13/11 03:22	630-02-4	
o-Terphenyl (S) SG	101	%	50-150	1	09/27/11 12:20	10/13/11 03:22	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.9**	%	0.10	1		09/27/11 15:35		

Sample: BH-103, 6.0 **Lab ID: 259349006** Collected: 09/22/11 09:40 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**24.7**	mg/kg DNR	17.4	1	09/27/11 12:20	09/29/11 22:03		
Motor Oil Range	**132**	mg/kg ↓	69.4	1	09/27/11 12:20	09/29/11 22:03	64742-65-0	
n-Octacosane (S)	79	%	50-150	1	09/27/11 12:20	09/29/11 22:03	630-02-4	
o-Terphenyl (S)	84	%	50-150	1	09/27/11 12:20	09/29/11 22:03	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	17.4	1	09/27/11 12:20	10/13/11 04:11		
Motor Oil Range SG	ND	mg/kg	69.4	1	09/27/11 12:20	10/13/11 04:11	64742-65-0	
n-Octacosane (S) SG	87	%	50-150	1	09/27/11 12:20	10/13/11 04:11	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/27/11 12:20	10/13/11 04:11	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**12.9**	%	0.10	1		09/27/11 15:35		

Sample: BH-103, 12.5 **Lab ID: 259349007** Collected: 09/22/11 09:50 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg DNR	16.7	1	09/27/11 12:20	09/28/11 20:37		
Motor Oil Range	ND	mg/kg ↓	66.6	1	09/27/11 12:20	09/28/11 20:37	64742-65-0	
n-Octacosane (S)	96	%	50-150	1	09/27/11 12:20	09/28/11 20:37	630-02-4	
o-Terphenyl (S)	98	%	50-150	1	09/27/11 12:20	09/28/11 20:37	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	16.7	1	09/27/11 12:20	10/13/11 04:36		
Motor Oil Range SG	ND	mg/kg	66.6	1	09/27/11 12:20	10/13/11 04:36	64742-65-0	
n-Octacosane (S) SG	87	%	50-150	1	09/27/11 12:20	10/13/11 04:36	630-02-4	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-103, 12.5 **Lab ID: 259349007** Collected: 09/22/11 09:50 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
o-Terphenyl (S) SG	83	%	50-150	1	09/27/11 12:20	10/13/11 04:36	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**11.9**	%	0.10	1		09/27/11 15:36		

Sample: BH-103, 13.4 **Lab ID: 259349008** Collected: 09/22/11 10:10 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	19.9	1	09/29/11 13:30	09/30/11 20:04		
Motor Oil Range	ND	mg/kg	79.6	1	09/29/11 13:30	09/30/11 20:04	64742-65-0	
n-Octacosane (S)	84	%	50-150	1	09/29/11 13:30	09/30/11 20:04	630-02-4	
o-Terphenyl (S)	82	%	50-150	1	09/29/11 13:30	09/30/11 20:04	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	19.9	1	09/29/11 13:30	10/13/11 05:00		
Motor Oil Range SG	ND	mg/kg	79.6	1	09/29/11 13:30	10/13/11 05:00	64742-65-0	
n-Octacosane (S) SG	88	%	50-150	1	09/29/11 13:30	10/13/11 05:00	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/29/11 13:30	10/13/11 05:00	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.6**	%	0.10	1		09/27/11 15:37		

Sample: BH-103, 16.5 **Lab ID: 259349009** Collected: 09/22/11 10:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	17.3	1	09/29/11 13:30	09/30/11 20:29		
Motor Oil Range	ND	mg/kg	69.4	1	09/29/11 13:30	09/30/11 20:29	64742-65-0	
n-Octacosane (S)	82	%	50-150	1	09/29/11 13:30	09/30/11 20:29	630-02-4	
o-Terphenyl (S)	80	%	50-150	1	09/29/11 13:30	09/30/11 20:29	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	17.3	1	09/29/11 13:30	10/13/11 05:25		
Motor Oil Range SG	ND	mg/kg	69.4	1	09/29/11 13:30	10/13/11 05:25	64742-65-0	
n-Octacosane (S) SG	89	%	50-150	1	09/29/11 13:30	10/13/11 05:25	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/29/11 13:30	10/13/11 05:25	84-15-1	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-103, 16.5 **Lab ID: 259349009** Collected: 09/22/11 10:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.6**	%	0.10	1		09/28/11 16:07		

Sample: BH-104, 5.0 **Lab ID: 259349010** Collected: 09/21/11 16:53 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**789**	mg/kg	87.2	5	09/29/11 13:30	09/30/11 14:34		
Motor Oil Range	**3030**	mg/kg	349	5	09/29/11 13:30	09/30/11 14:34	64742-65-0	
n-Octacosane (S)	81	%	50-150	5	09/29/11 13:30	09/30/11 14:34	630-02-4	
o-Terphenyl (S)	84	%	50-150	5	09/29/11 13:30	09/30/11 14:34	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**539**	mg/kg	17.4	1	09/29/11 13:30	10/13/11 05:50		
Motor Oil Range SG	**1870**	mg/kg	69.8	1	09/29/11 13:30	10/13/11 05:50	64742-65-0	
n-Octacosane (S) SG	85	%	50-150	1	09/29/11 13:30	10/13/11 05:50	630-02-4	
o-Terphenyl (S) SG	85	%	50-150	1	09/29/11 13:30	10/13/11 05:50	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**12.8**	%	0.10	1		09/28/11 16:08		

Sample: BH-104, 12.0 **Lab ID: 259349011** Collected: 09/21/11 17:15 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**67.8**	mg/kg	17.8	1	09/29/11 13:30	09/30/11 20:55		
Motor Oil Range	ND	mg/kg	71.1	1	09/29/11 13:30	09/30/11 20:55	64742-65-0	
n-Octacosane (S)	84	%	50-150	1	09/29/11 13:30	09/30/11 20:55	630-02-4	
o-Terphenyl (S)	82	%	50-150	1	09/29/11 13:30	09/30/11 20:55	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**55.1**	mg/kg	17.8	1	09/29/11 13:30	10/13/11 06:14		
Motor Oil Range SG	ND	mg/kg	71.1	1	09/29/11 13:30	10/13/11 06:14	64742-65-0	
n-Octacosane (S) SG	89	%	50-150	1	09/29/11 13:30	10/13/11 06:14	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/29/11 13:30	10/13/11 06:14	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.1**	%	0.10	1		09/28/11 16:08		

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-104, 16.5 **Lab ID: 259349012** Collected: 09/21/11 17:30 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**327**	mg/kg	24.6	1	09/29/11 13:30	09/30/11 21:20		
Motor Oil Range	**143**	mg/kg	98.4	1	09/29/11 13:30	09/30/11 21:20	64742-65-0	
n-Octacosane (S)	83	%	50-150	1	09/29/11 13:30	09/30/11 21:20	630-02-4	
o-Terphenyl (S)	82	%	50-150	1	09/29/11 13:30	09/30/11 21:20	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**296**	mg/kg	24.6	1	09/29/11 13:30	10/13/11 07:29		
Motor Oil Range SG	**112**	mg/kg	98.4	1	09/29/11 13:30	10/13/11 07:29	64742-65-0	
n-Octacosane (S) SG	87	%	50-150	1	09/29/11 13:30	10/13/11 07:29	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/29/11 13:30	10/13/11 07:29	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**38.6**	%	0.10	1		09/28/11 16:09		

Sample: BH-105, 5.0 **Lab ID: 259349013** Collected: 09/21/11 14:45 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**955**	mg/kg	96.0	5	09/29/11 13:30	09/30/11 15:00		
Motor Oil Range	**4350**	mg/kg	384	5	09/29/11 13:30	09/30/11 15:00	64742-65-0	
n-Octacosane (S)	75	%	50-150	5	09/29/11 13:30	09/30/11 15:00	630-02-4	
o-Terphenyl (S)	78	%	50-150	5	09/29/11 13:30	09/30/11 15:00	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**605**	mg/kg	19.2	1	09/29/11 13:30	10/13/11 07:53		
Motor Oil Range SG	**2870**	mg/kg	76.8	1	09/29/11 13:30	10/13/11 07:53	64742-65-0	
n-Octacosane (S) SG	83	%	50-150	1	09/29/11 13:30	10/13/11 07:53	630-02-4	
o-Terphenyl (S) SG	80	%	50-150	1	09/29/11 13:30	10/13/11 07:53	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.5**	%	0.10	1		09/28/11 16:10		

Sample: BH-105, 12.5 **Lab ID: 259349014** Collected: 09/21/11 15:05 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**50.0**	mg/kg	18.2	1	09/29/11 13:30	09/30/11 22:37		
Motor Oil Range	ND	mg/kg	72.6	1	09/29/11 13:30	09/30/11 22:37	64742-65-0	
n-Octacosane (S)	85	%	50-150	1	09/29/11 13:30	09/30/11 22:37	630-02-4	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-105, 12.5 **Lab ID: 259349014** Collected: 09/21/11 15:05 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
o-Terphenyl (S)	83	%	50-150	1	09/29/11 13:30	09/30/11 22:37	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**40.5**	mg/kg	18.2	1	09/29/11 13:30	10/13/11 08:18		
Motor Oil Range SG	ND	mg/kg	72.6	1	09/29/11 13:30	10/13/11 08:18	64742-65-0	
n-Octacosane (S) SG	92	%	50-150	1	09/29/11 13:30	10/13/11 08:18	630-02-4	
o-Terphenyl (S) SG	86	%	50-150	1	09/29/11 13:30	10/13/11 08:18	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.6**	%	0.10	1		09/28/11 16:11		

Sample: BH-105, 16.5 **Lab ID: 259349015** Collected: 09/21/11 15:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	17.4	1	09/29/11 13:30	09/30/11 23:02		
Motor Oil Range	ND	mg/kg	69.5	1	09/29/11 13:30	09/30/11 23:02	64742-65-0	
n-Octacosane (S)	84	%	50-150	1	09/29/11 13:30	09/30/11 23:02	630-02-4	
o-Terphenyl (S)	83	%	50-150	1	09/29/11 13:30	09/30/11 23:02	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	17.4	1	09/29/11 13:30	10/13/11 08:42		
Motor Oil Range SG	ND	mg/kg	69.5	1	09/29/11 13:30	10/13/11 08:42	64742-65-0	
n-Octacosane (S) SG	89	%	50-150	1	09/29/11 13:30	10/13/11 08:42	630-02-4	
o-Terphenyl (S) SG	85	%	50-150	1	09/29/11 13:30	10/13/11 08:42	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**9.8**	%	0.10	1		09/28/11 16:12		

Sample: BH-106,5.0 **Lab ID: 259349016** Collected: 09/21/11 12:30 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**246**	mg/kg	81.1	5	09/29/11 13:30	09/30/11 15:25		
Motor Oil Range	**1320**	mg/kg	324	5	09/29/11 13:30	09/30/11 15:25	64742-65-0	
n-Octacosane (S)	82	%	50-150	5	09/29/11 13:30	09/30/11 15:25	630-02-4	
o-Terphenyl (S)	80	%	50-150	5	09/29/11 13:30	09/30/11 15:25	84-15-1	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-106,5.0 **Lab ID: 259349016** Collected: 09/21/11 12:30 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**127**	mg/kg	16.2	1	09/29/11 13:30	10/13/11 09:07		
Motor Oil Range SG	**558**	mg/kg	64.8	1	09/29/11 13:30	10/13/11 09:07	64742-65-0	
n-Octacosane (S) SG	90	%	50-150	1	09/29/11 13:30	10/13/11 09:07	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/29/11 13:30	10/13/11 09:07	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**3.7**	%	0.10	1		09/28/11 16:12		

Sample: BH-106, 11.0 **Lab ID: 259349017** Collected: 09/21/11 12:45 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**8500**	mg/kg DNR	86.4	5	09/29/11 13:30	09/30/11 15:51		
Motor Oil Range	**3170**	mg/kg	346	5	09/29/11 13:30	09/30/11 15:51	64742-65-0	
n-Octacosane (S)	83	%	50-150	5	09/29/11 13:30	09/30/11 15:51	630-02-4	
o-Terphenyl (S)	93	%	50-150	5	09/29/11 13:30	09/30/11 15:51	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**8350**	mg/kg	86.4	5	09/29/11 13:30	10/13/11 21:41		
Motor Oil Range SG	**2690**	mg/kg	346	5	09/29/11 13:30	10/13/11 21:41	64742-65-0	
n-Octacosane (S) SG	98	%	50-150	5	09/29/11 13:30	10/13/11 21:41	630-02-4	
o-Terphenyl (S) SG	107	%	50-150	5	09/29/11 13:30	10/13/11 21:41	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**12.2**	%	0.10	1		09/28/11 16:13		

Sample: BH-106, 14.5 **Lab ID: 259349018** Collected: 09/21/11 13:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**859**	mg/kg DNR	20.0	1	09/29/11 13:30	09/30/11 23:28		
Motor Oil Range	**221**	mg/kg	80.1	1	09/29/11 13:30	09/30/11 23:28	64742-65-0	
n-Octacosane (S)	83	%	50-150	1	09/29/11 13:30	09/30/11 23:28	630-02-4	
o-Terphenyl (S)	84	%	50-150	1	09/29/11 13:30	09/30/11 23:28	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**763**	mg/kg	20.0	1	09/29/11 13:30	10/13/11 10:21		
Motor Oil Range SG	**188**	mg/kg	80.1	1	09/29/11 13:30	10/13/11 10:21	64742-65-0	
n-Octacosane (S) SG	89	%	50-150	1	09/29/11 13:30	10/13/11 10:21	630-02-4	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-106, 14.5 **Lab ID: 259349018** Collected: 09/21/11 13:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
o-Terphenyl (S) SG	87	%	50-150	1	09/29/11 13:30	10/13/11 10:21	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.9**	%	0.10	1		09/28/11 16:14		

Sample: BH-107, 5.0 **Lab ID: 259349019** Collected: 09/20/11 14:25 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg DNR	17.6	1	09/29/11 13:30	09/30/11 23:53		
Motor Oil Range	ND	mg/kg ↓	70.5	1	09/29/11 13:30	09/30/11 23:53	64742-65-0	
n-Octacosane (S)	84	%	50-150	1	09/29/11 13:30	09/30/11 23:53	630-02-4	
o-Terphenyl (S)	82	%	50-150	1	09/29/11 13:30	09/30/11 23:53	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	17.6	1	09/29/11 13:30	10/13/11 10:46		
Motor Oil Range SG	ND	mg/kg	70.5	1	09/29/11 13:30	10/13/11 10:46	64742-65-0	
n-Octacosane (S) SG	91	%	50-150	1	09/29/11 13:30	10/13/11 10:46	630-02-4	
o-Terphenyl (S) SG	85	%	50-150	1	09/29/11 13:30	10/13/11 10:46	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.0**	%	0.10	1		09/28/11 16:14		

Sample: BH-107, 18.3 **Lab ID: 259349020** Collected: 09/20/11 15:30 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg DNR	17.1	1	09/29/11 13:30	10/01/11 00:19		
Motor Oil Range	ND	mg/kg ↓	68.3	1	09/29/11 13:30	10/01/11 00:19	64742-65-0	
n-Octacosane (S)	85	%	50-150	1	09/29/11 13:30	10/01/11 00:19	630-02-4	
o-Terphenyl (S)	84	%	50-150	1	09/29/11 13:30	10/01/11 00:19	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	17.1	1	09/29/11 13:30	10/13/11 12:01		
Motor Oil Range SG	ND	mg/kg	68.3	1	09/29/11 13:30	10/13/11 12:01	64742-65-0	
n-Octacosane (S) SG	91	%	50-150	1	09/29/11 13:30	10/13/11 12:01	630-02-4	
o-Terphenyl (S) SG	86	%	50-150	1	09/29/11 13:30	10/13/11 12:01	84-15-1	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-107, 18.3 **Lab ID: 259349020** Collected: 09/20/11 15:30 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.2**	%	0.10	1		09/28/11 16:15		

Sample: BH-108, 5.0 **Lab ID: 259349021** Collected: 09/21/11 10:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	17.5	1	09/29/11 13:30	10/01/11 00:44		
Motor Oil Range	ND	mg/kg	70.1	1	09/29/11 13:30	10/01/11 00:44	64742-65-0	
n-Octacosane (S)	84	%	50-150	1	09/29/11 13:30	10/01/11 00:44	630-02-4	
o-Terphenyl (S)	82	%	50-150	1	09/29/11 13:30	10/01/11 00:44	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	17.5	1	09/29/11 13:30	10/13/11 12:26		
Motor Oil Range SG	ND	mg/kg	70.1	1	09/29/11 13:30	10/13/11 12:26	64742-65-0	
n-Octacosane (S) SG	89	%	50-150	1	09/29/11 13:30	10/13/11 12:26	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/29/11 13:30	10/13/11 12:26	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.2**	%	0.10	1		09/28/11 16:16		

Sample: BH-108, 12.5 **Lab ID: 259349022** Collected: 09/21/11 10:40 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	20.9	1	09/29/11 13:30	10/01/11 01:10		
Motor Oil Range	ND	mg/kg	83.5	1	09/29/11 13:30	10/01/11 01:10	64742-65-0	
n-Octacosane (S)	82	%	50-150	1	09/29/11 13:30	10/01/11 01:10	630-02-4	
o-Terphenyl (S)	81	%	50-150	1	09/29/11 13:30	10/01/11 01:10	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.9	1	09/29/11 13:30	10/13/11 12:51		
Motor Oil Range SG	ND	mg/kg	83.5	1	09/29/11 13:30	10/13/11 12:51	64742-65-0	
n-Octacosane (S) SG	89	%	50-150	1	09/29/11 13:30	10/13/11 12:51	630-02-4	
o-Terphenyl (S) SG	84	%	50-150	1	09/29/11 13:30	10/13/11 12:51	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**29.3**	%	0.10	1		09/28/11 16:17		

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-109, 6.0 **Lab ID: 259349023** Collected: 09/21/11 07:40 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**189**	mg/kg	16.9	1	09/29/11 13:30	10/01/11 01:36		
Motor Oil Range	**584**	mg/kg	67.5	1	09/29/11 13:30	10/01/11 01:36	64742-65-0	
n-Octacosane (S)	88	%	50-150	1	09/29/11 13:30	10/01/11 01:36	630-02-4	
o-Terphenyl (S)	85	%	50-150	1	09/29/11 13:30	10/01/11 01:36	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**114**	mg/kg	16.9	1	09/29/11 13:30	10/13/11 13:16		
Motor Oil Range SG	**324**	mg/kg	67.5	1	09/29/11 13:30	10/13/11 13:16	64742-65-0	
n-Octacosane (S) SG	95	%	50-150	1	09/29/11 13:30	10/13/11 13:16	630-02-4	
o-Terphenyl (S) SG	87	%	50-150	1	09/29/11 13:30	10/13/11 13:16	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**10.3**	%	0.10	1		09/28/11 16:18		

Sample: BH-109, 18.2 **Lab ID: 259349024** Collected: 09/21/11 08:30 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	18.3	1	09/29/11 13:30	10/01/11 03:44		
Motor Oil Range	ND	mg/kg	73.3	1	09/29/11 13:30	10/01/11 03:44	64742-65-0	
n-Octacosane (S)	85	%	50-150	1	09/29/11 13:30	10/01/11 03:44	630-02-4	
o-Terphenyl (S)	84	%	50-150	1	09/29/11 13:30	10/01/11 03:44	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	18.3	1	09/29/11 13:30	10/13/11 14:06		
Motor Oil Range SG	ND	mg/kg	73.3	1	09/29/11 13:30	10/13/11 14:06	64742-65-0	
n-Octacosane (S) SG	94	%	50-150	1	09/29/11 13:30	10/13/11 14:06	630-02-4	
o-Terphenyl (S) SG	88	%	50-150	1	09/29/11 13:30	10/13/11 14:06	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.4**	%	0.10	1		09/28/11 16:19		

Sample: BH-110, 5.0 **Lab ID: 259349025** Collected: 09/20/11 16:45 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**151**	mg/kg	18.2	1	09/29/11 13:30	10/03/11 15:48		
Motor Oil Range	**627**	mg/kg	72.8	1	09/29/11 13:30	10/03/11 15:48	64742-65-0	
n-Octacosane (S)	87	%	50-150	1	09/29/11 13:30	10/03/11 15:48	630-02-4	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-110, 5.0 **Lab ID: 259349025** Collected: 09/20/11 16:45 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
o-Terphenyl (S)	86	%	50-150	1	09/29/11 13:30	10/03/11 15:48	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**127**	mg/kg	18.2	1	09/29/11 13:30	10/13/11 14:31		
Motor Oil Range SG	**446**	mg/kg	72.8	1	09/29/11 13:30	10/13/11 14:31	64742-65-0	
n-Octacosane (S) SG	98	%	50-150	1	09/29/11 13:30	10/13/11 14:31	630-02-4	
o-Terphenyl (S) SG	91	%	50-150	1	09/29/11 13:30	10/13/11 14:31	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.3**	%	0.10	1		09/28/11 16:19		

Sample: BH-110, 16.5 **Lab ID: 259349026** Collected: 09/20/11 17:20 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	19.0	1	09/29/11 13:30	10/01/11 04:09		
Motor Oil Range	ND	mg/kg	76.1	1	09/29/11 13:30	10/01/11 04:09	64742-65-0	
n-Octacosane (S)	84	%	50-150	1	09/29/11 13:30	10/01/11 04:09	630-02-4	
o-Terphenyl (S)	83	%	50-150	1	09/29/11 13:30	10/01/11 04:09	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	19.0	1	09/29/11 13:30	10/13/11 14:56		
Motor Oil Range SG	ND	mg/kg	76.1	1	09/29/11 13:30	10/13/11 14:56	64742-65-0	
n-Octacosane (S) SG	91	%	50-150	1	09/29/11 13:30	10/13/11 14:56	630-02-4	
o-Terphenyl (S) SG	86	%	50-150	1	09/29/11 13:30	10/13/11 14:56	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.2**	%	0.10	1		09/28/11 16:20		

Sample: BH-111, 5.0 **Lab ID: 259349027** Collected: 09/22/11 11:10 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**53.1**	mg/kg	16.3	1	09/29/11 13:30	10/01/11 10:07		
Motor Oil Range	**125**	mg/kg	65.1	1	09/29/11 13:30	10/01/11 10:07	64742-65-0	
n-Octacosane (S)	85	%	50-150	1	09/29/11 13:30	10/01/11 10:07	630-02-4	
o-Terphenyl (S)	83	%	50-150	1	09/29/11 13:30	10/01/11 10:07	84-15-1	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: BH-111, 5.0 **Lab ID: 259349027** Collected: 09/22/11 11:10 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**42.0**	mg/kg	16.3	1	09/29/11 13:30	10/13/11 15:21		
Motor Oil Range SG	**85.7**	mg/kg	65.1	1	09/29/11 13:30	10/13/11 15:21	64742-65-0	
n-Octacosane (S) SG	93	%	50-150	1	09/29/11 13:30	10/13/11 15:21	630-02-4	
o-Terphenyl (S) SG	88	%	50-150	1	09/29/11 13:30	10/13/11 15:21	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**9.3**	%	0.10	1		09/28/11 16:20		

Sample: BH-111, 15.5 **Lab ID: 259349028** Collected: 09/22/11 11:45 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	ND	mg/kg	17.7	1	09/29/11 13:30	10/01/11 04:34		
Motor Oil Range	ND	mg/kg	70.9	1	09/29/11 13:30	10/01/11 04:34	64742-65-0	
n-Octacosane (S)	82	%	50-150	1	09/29/11 13:30	10/01/11 04:34	630-02-4	
o-Terphenyl (S)	82	%	50-150	1	09/29/11 13:30	10/01/11 04:34	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	17.7	1	09/29/11 13:30	10/13/11 16:36		
Motor Oil Range SG	ND	mg/kg	70.9	1	09/29/11 13:30	10/13/11 16:36	64742-65-0	
n-Octacosane (S) SG	124	%	50-150	1	09/29/11 13:30	10/13/11 16:36	630-02-4	
o-Terphenyl (S) SG	117	%	50-150	1	09/29/11 13:30	10/13/11 16:36	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**12.1**	%	0.10	1		09/28/11 16:25		

Sample: DUP **Lab ID: 259349029** Collected: 09/20/11 00:00 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range	**986**	mg/kg	17.9	1	09/29/11 13:30	10/01/11 05:25		
Motor Oil Range	**95.1**	mg/kg	71.5	1	09/29/11 13:30	10/01/11 05:25	64742-65-0	
n-Octacosane (S)	85	%	50-150	1	09/29/11 13:30	10/01/11 05:25	630-02-4	
o-Terphenyl (S)	85	%	50-150	1	09/29/11 13:30	10/01/11 05:25	84-15-1	
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	**907**	mg/kg	17.9	1	09/29/11 13:30	10/13/11 17:25		
Motor Oil Range SG	ND	mg/kg	71.5	1	09/29/11 13:30	10/13/11 17:25	64742-65-0	
n-Octacosane (S) SG	92	%	50-150	1	09/29/11 13:30	10/13/11 17:25	630-02-4	

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ANALYTICAL RESULTS

Project: Avery Landing
Pace Project No.: 259349

Sample: DUP **Lab ID: 259349029** Collected: 09/20/11 00:00 Received: 09/24/11 10:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
o-Terphenyl (S) SG	89	%	50-150	1	09/29/11 13:30	10/13/11 17:25	84-15-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**13.6**	%	0.10	1		09/28/11 16:27		

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: OEXT/4419 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 259349001, 259349002, 259349003, 259349004, 259349005, 259349006, 259349007

METHOD BLANK: 87423 Matrix: Solid
Associated Lab Samples: 259349001, 259349002, 259349003, 259349004, 259349005, 259349006, 259349007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range	mg/kg	ND	16.0	09/28/11 14:46	
Motor Oil Range	mg/kg	ND	64.0	09/28/11 14:46	
n-Octacosane (S)	%	92	50-150	09/28/11 14:46	
o-Terphenyl (S)	%	96	50-150	09/28/11 14:46	

LABORATORY CONTROL SAMPLE: 87424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range	mg/kg	500	432	86	56-124	
Motor Oil Range	mg/kg	500	462	92	50-150	
n-Octacosane (S)	%			85	50-150	
o-Terphenyl (S)	%			95	50-150	

SAMPLE DUPLICATE: 87425

Parameter	Units	259305012 Result	Dup Result	RPD	Qualifiers
Diesel Range	mg/kg	ND	ND		
Motor Oil Range	mg/kg	ND	ND		
n-Octacosane (S)	%	89	92	7	
o-Terphenyl (S)	%	90	92	5	

SAMPLE DUPLICATE: 87426

Parameter	Units	259349005 Result	Dup Result	RPD	Qualifiers
Diesel Range	mg/kg	880	3170	113	1n
Motor Oil Range	mg/kg	394	1390	112	1n
n-Octacosane (S)	%	79	81	3	
o-Terphenyl (S)	%	85	96	12	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: OEXT/4435 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 259349008, 259349009, 259349010, 259349011, 259349012, 259349013, 259349014, 259349015, 259349016, 259349017, 259349018, 259349019, 259349020, 259349021, 259349022, 259349023

METHOD BLANK: 87851 Matrix: Solid
Associated Lab Samples: 259349008, 259349009, 259349010, 259349011, 259349012, 259349013, 259349014, 259349015, 259349016, 259349017, 259349018, 259349019, 259349020, 259349021, 259349022, 259349023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range	mg/kg	ND	16.0	09/30/11 13:46	
Motor Oil Range	mg/kg	ND	64.0	09/30/11 13:46	
n-Octacosane (S)	%	78	50-150	09/30/11 13:46	
o-Terphenyl (S)	%	80	50-150	09/30/11 13:46	

LABORATORY CONTROL SAMPLE: 87852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range	mg/kg	400	363	91	56-124	
Motor Oil Range	mg/kg	400	333	83	50-150	
n-Octacosane (S)	%			82	50-150	
o-Terphenyl (S)	%			87	50-150	

SAMPLE DUPLICATE: 87853

Parameter	Units	259372002 Result	Dup Result	RPD	Qualifiers
Diesel Range	mg/kg	ND	ND		
Motor Oil Range	mg/kg	ND	ND		
n-Octacosane (S)	%	82	85	3	
o-Terphenyl (S)	%	80	82	2	

SAMPLE DUPLICATE: 87854

Parameter	Units	259349017 Result	Dup Result	RPD	Qualifiers
Diesel Range	mg/kg	8500	9190	8	
Motor Oil Range	mg/kg	3170	3550	11	
n-Octacosane (S)	%	83	82	1	
o-Terphenyl (S)	%	93	92	.5	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: OEXT/4436 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 259349024, 259349025, 259349026, 259349027, 259349028, 259349029

METHOD BLANK: 87857 Matrix: Solid
Associated Lab Samples: 259349024, 259349025, 259349026, 259349027, 259349028, 259349029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range	mg/kg	ND	16.0	10/01/11 02:53	
Motor Oil Range	mg/kg	ND	64.0	10/01/11 02:53	
n-Octacosane (S)	%	85	50-150	10/01/11 02:53	
o-Terphenyl (S)	%	83	50-150	10/01/11 02:53	

LABORATORY CONTROL SAMPLE: 87858

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range	mg/kg	400	373	93	56-124	
Motor Oil Range	mg/kg	400	346	87	50-150	
n-Octacosane (S)	%			86	50-150	
o-Terphenyl (S)	%			89	50-150	

SAMPLE DUPLICATE: 87859

Parameter	Units	259349028 Result	Dup Result	RPD	Qualifiers
Diesel Range	mg/kg	ND	ND		
Motor Oil Range	mg/kg	ND	ND		
n-Octacosane (S)	%	82	85	1	
o-Terphenyl (S)	%	82	84	2	

SAMPLE DUPLICATE: 87860

Parameter	Units	259375011 Result	Dup Result	RPD	Qualifiers
Diesel Range	mg/kg	ND	ND		
Motor Oil Range	mg/kg	ND	ND		
n-Octacosane (S)	%	84	94	12	
o-Terphenyl (S)	%	83	93	12	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: OEXT/4520 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 259349008, 259349009, 259349010, 259349011, 259349012, 259349013, 259349014, 259349015, 259349016, 259349017, 259349018, 259349019, 259349020, 259349021, 259349022, 259349023

METHOD BLANK: 89930 Matrix: Solid
Associated Lab Samples: 259349008, 259349009, 259349010, 259349011, 259349012, 259349013, 259349014, 259349015, 259349016, 259349017, 259349018, 259349019, 259349020, 259349021, 259349022, 259349023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range SG	mg/kg	ND	16.0	10/13/11 00:09	
Motor Oil Range SG	mg/kg	ND	64.0	10/13/11 00:09	
n-Octacosane (S) SG	%	87	50-150	10/13/11 00:09	
o-Terphenyl (S) SG	%	83	50-150	10/13/11 00:09	

LABORATORY CONTROL SAMPLE: 89931

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range SG	mg/kg	400	349	87	56-124	
Motor Oil Range SG	mg/kg	400	355	89	50-150	
n-Octacosane (S) SG	%			88	50-150	
o-Terphenyl (S) SG	%			90	50-150	

SAMPLE DUPLICATE: 89932

Parameter	Units	259349017 Result	Dup Result	RPD	Qualifiers
Diesel Range SG	mg/kg	8350	8140	3	
Motor Oil Range SG	mg/kg	2690	2670	.6	
n-Octacosane (S) SG	%	98	89	8	
o-Terphenyl (S) SG	%	107	99	7	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: OEXT/4522 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 259349001, 259349002, 259349003, 259349004, 259349005, 259349006, 259349007

METHOD BLANK: 89936 Matrix: Solid
Associated Lab Samples: 259349001, 259349002, 259349003, 259349004, 259349005, 259349006, 259349007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range SG	mg/kg	ND	16.0	10/12/11 23:21	
Motor Oil Range SG	mg/kg	ND	64.0	10/12/11 23:21	
n-Octacosane (S) SG	%	83	50-150	10/12/11 23:21	
o-Terphenyl (S) SG	%	84	50-150	10/12/11 23:21	

LABORATORY CONTROL SAMPLE: 89937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range SG	mg/kg	500	454	91	56-124	
Motor Oil Range SG	mg/kg	500	442	88	50-150	
n-Octacosane (S) SG	%			88	50-150	
o-Terphenyl (S) SG	%			108	50-150	

SAMPLE DUPLICATE: 89938

Parameter	Units	259349005 Result	Dup Result	RPD	Qualifiers
Diesel Range SG	mg/kg	1850	2410	27	
Motor Oil Range SG	mg/kg	581	769	28	
n-Octacosane (S) SG	%	89	93	5	
o-Terphenyl (S) SG	%	101	109	7	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: OEXT/4523 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 259349024, 259349025, 259349026, 259349027, 259349028, 259349029

METHOD BLANK: 89939 Matrix: Solid
Associated Lab Samples: 259349024, 259349025, 259349026, 259349027, 259349028, 259349029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range SG	mg/kg	ND	16.0	10/12/11 22:33	
Motor Oil Range SG	mg/kg	ND	64.0	10/12/11 22:33	
n-Octacosane (S) SG	%	91	50-150	10/12/11 22:33	
o-Terphenyl (S) SG	%	88	50-150	10/12/11 22:33	

LABORATORY CONTROL SAMPLE: 89940

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range SG	mg/kg	400	393	98	56-124	
Motor Oil Range SG	mg/kg	400	386	96	50-150	
n-Octacosane (S) SG	%			94	50-150	
o-Terphenyl (S) SG	%			94	50-150	

SAMPLE DUPLICATE: 89941

Parameter	Units	259349028 Result	Dup Result	RPD	Qualifiers
Diesel Range SG	mg/kg	ND	ND		
Motor Oil Range SG	mg/kg	ND	ND		
n-Octacosane (S) SG	%	124	94	33	
o-Terphenyl (S) SG	%	117	88	33	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: PMST/1833 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 259349001, 259349002, 259349003, 259349004, 259349005, 259349006, 259349007, 259349008

SAMPLE DUPLICATE: 87502

Parameter	Units	259372001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	17.3	17.2	.2	

SAMPLE DUPLICATE: 87503

Parameter	Units	259349006 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	12.9	12.4	4	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: PMST/1834 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 259349009, 259349010, 259349011, 259349012, 259349013, 259349014, 259349015, 259349016, 259349017, 259349018, 259349019, 259349020, 259349021, 259349022, 259349023, 259349024, 259349025, 259349026, 259349027

SAMPLE DUPLICATE: 87724

Parameter	Units	259386001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	44.7	41.2	8	

SAMPLE DUPLICATE: 87725

Parameter	Units	259349022 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	29.3	28.7	2	

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QUALITY CONTROL DATA

Project: Avery Landing
Pace Project No.: 259349

QC Batch: PMST/1835
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 259349028, 259349029

SAMPLE DUPLICATE: 87726

Parameter	Units	259349028 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	12.1	13.4	10	

SAMPLE DUPLICATE: 87727

Parameter	Units	259375001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	10.6	11.7	10	

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QUALIFIERS

Project: Avery Landing
Pace Project No.: 259349

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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LABORATORIES

PASI-S	Pace Analytical Services - Seattle

ANALYTE QUALIFIERS

1n	RPD value was outside control limits due to sample inhomgeniety (rocky sample matrix.)
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Avery Landing
Pace Project No.: 259349

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
259349001	**BH-101, 6.0**	EPA 3546	OEXT/4419	NWTPH-Dx	GCSV/2929
259349002	**BH-101, 12.2**	EPA 3546	OEXT/4419	NWTPH-Dx	GCSV/2929
259349003	**BH-102, 6.0**	EPA 3546	OEXT/4419	NWTPH-Dx	GCSV/2929
259349004	**BH-102, 9.0**	EPA 3546	OEXT/4419	NWTPH-Dx	GCSV/2929
259349005	**BH-102, 13.5**	EPA 3546	OEXT/4419	NWTPH-Dx	GCSV/2929
259349006	**BH-103, 6.0**	EPA 3546	OEXT/4419	NWTPH-Dx	GCSV/2929
259349007	**BH-103, 12.5**	EPA 3546	OEXT/4419	NWTPH-Dx	GCSV/2929
259349008	**BH-103, 13.4**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349009	**BH-103, 16.5**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349010	**BH-104, 5.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349011	**BH-104, 12.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349012	**BH-104, 16.5**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349013	**BH-105, 5.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349014	**BH-105, 12.5**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349015	**BH-105, 16.5**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349016	**BH-106,5.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349017	**BH-106, 11.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349018	**BH-106, 14.5**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349019	**BH-107, 5.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349020	**BH-107, 18.3**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349021	**BH-108, 5.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349022	**BH-108, 12.5**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349023	**BH-109, 6.0**	EPA 3546	OEXT/4435	NWTPH-Dx	GCSV/2937
259349024	**BH-109, 18.2**	EPA 3546	OEXT/4436	NWTPH-Dx	GCSV/2940
259349025	**BH-110, 5.0**	EPA 3546	OEXT/4436	NWTPH-Dx	GCSV/2940
259349026	**BH-110, 16.5**	EPA 3546	OEXT/4436	NWTPH-Dx	GCSV/2940
259349027	**BH-111, 5.0**	EPA 3546	OEXT/4436	NWTPH-Dx	GCSV/2940
259349028	**BH-111, 15.5**	EPA 3546	OEXT/4436	NWTPH-Dx	GCSV/2940
259349029	**DUP**	EPA 3546	OEXT/4436	NWTPH-Dx	GCSV/2940
259349001	**BH-101, 6.0**	EPA 3546	OEXT/4522	NWTPH-Dx	GCSV/2982
259349002	**BH-101, 12.2**	EPA 3546	OEXT/4522	NWTPH-Dx	GCSV/2982
259349003	**BH-102, 6.0**	EPA 3546	OEXT/4522	NWTPH-Dx	GCSV/2982
259349004	**BH-102, 9.0**	EPA 3546	OEXT/4522	NWTPH-Dx	GCSV/2982
259349005	**BH-102, 13.5**	EPA 3546	OEXT/4522	NWTPH-Dx	GCSV/2982
259349006	**BH-103, 6.0**	EPA 3546	OEXT/4522	NWTPH-Dx	GCSV/2982
259349007	**BH-103, 12.5**	EPA 3546	OEXT/4522	NWTPH-Dx	GCSV/2982
259349008	**BH-103, 13.4**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349009	**BH-103, 16.5**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349010	**BH-104, 5.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349011	**BH-104, 12.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349012	**BH-104, 16.5**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349013	**BH-105, 5.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349014	**BH-105, 12.5**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349015	**BH-105, 16.5**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349016	**BH-106,5.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349017	**BH-106, 11.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349018	**BH-106, 14.5**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983

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www.pacelabs.com

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Avery Landing
Pace Project No.: 259349

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
259349019	**BH-107, 5.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349020	**BH-107, 18.3**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349021	**BH-108, 5.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349022	**BH-108, 12.5**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349023	**BH-109, 6.0**	EPA 3546	OEXT/4520	NWTPH-Dx	GCSV/2983
259349024	**BH-109, 18.2**	EPA 3546	OEXT/4523	NWTPH-Dx	GCSV/2981
259349025	**BH-110, 5.0**	EPA 3546	OEXT/4523	NWTPH-Dx	GCSV/2981
259349026	**BH-110, 16.5**	EPA 3546	OEXT/4523	NWTPH-Dx	GCSV/2981
259349027	**BH-111, 5.0**	EPA 3546	OEXT/4523	NWTPH-Dx	GCSV/2981
259349028	**BH-111, 15.5**	EPA 3546	OEXT/4523	NWTPH-Dx	GCSV/2981
259349029	**DUP**	EPA 3546	OEXT/4523	NWTPH-Dx	GCSV/2981
259349001	**BH-101, 6.0**	ASTM D2974-87	PMST/1833		
259349002	**BH-101, 12.2**	ASTM D2974-87	PMST/1833		
259349003	**BH-102, 6.0**	ASTM D2974-87	PMST/1833		
259349004	**BH-102, 9.0**	ASTM D2974-87	PMST/1833		
259349005	**BH-102, 13.5**	ASTM D2974-87	PMST/1833		
259349006	**BH-103, 6.0**	ASTM D2974-87	PMST/1833		
259349007	**BH-103, 12.5**	ASTM D2974-87	PMST/1833		
259349008	**BH-103, 13.4**	ASTM D2974-87	PMST/1833		
259349009	**BH-103, 16.5**	ASTM D2974-87	PMST/1834		
259349010	**BH-104, 5.0**	ASTM D2974-87	PMST/1834		
259349011	**BH-104, 12.0**	ASTM D2974-87	PMST/1834		
259349012	**BH-104, 16.5**	ASTM D2974-87	PMST/1834		
259349013	**BH-105, 5.0**	ASTM D2974-87	PMST/1834		
259349014	**BH-105, 12.5**	ASTM D2974-87	PMST/1834		
259349015	**BH-105, 16.5**	ASTM D2974-87	PMST/1834		
259349016	**BH-106,5.0**	ASTM D2974-87	PMST/1834		
259349017	**BH-106, 11.0**	ASTM D2974-87	PMST/1834		
259349018	**BH-106, 14.5**	ASTM D2974-87	PMST/1834		
259349019	**BH-107, 5.0**	ASTM D2974-87	PMST/1834		
259349020	**BH-107, 18.3**	ASTM D2974-87	PMST/1834		
259349021	**BH-108, 5.0**	ASTM D2974-87	PMST/1834		
259349022	**BH-108, 12.5**	ASTM D2974-87	PMST/1834		
259349023	**BH-109, 6.0**	ASTM D2974-87	PMST/1834		
259349024	**BH-109, 18.2**	ASTM D2974-87	PMST/1834		
259349025	**BH-110, 5.0**	ASTM D2974-87	PMST/1834		
259349026	**BH-110, 16.5**	ASTM D2974-87	PMST/1834		
259349027	**BH-111, 5.0**	ASTM D2974-87	PMST/1834		
259349028	**BH-111, 15.5**	ASTM D2974-87	PMST/1835		
259349029	**DUP**	ASTM D2974-87	PMST/1835		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2593449

Page: 1 of 3

1479068

Section A Required Client Information:

Company: AMEC
Address: 600 University Suite 800, Seattle, WA 98101
Email To: naila.moreira@amec.com
Phone: 734-645-2090 Fax:
Requested Due Date/TAT: Normal

Section B Required Project Information:

Report To: naila.moreira@amec.com
Copy To: aaronduphy@amec.com, wilhelm.welzenbach@amec.com
Purchase Order No.: SE101601
Project Name: Avery Landing
Project Number: SE101601

Section C Invoice Information:

Attention: (See sect A)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 22597/L1

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, OTHER
Site Location STATE: ID

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): TPH - Dx	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BH-101, 6.0	SL	G			9/22/11	12:55		1										X		
2	BH-101, 12.2		G			9/22/11	13:15		1										X		
3	BH-102, 6.0					9/22/11	7:50												X		
4	BH-102, 9.0					9/22/11	8:00												X		
5	BH-102, 13.5					9/22/11	8:20												X		
6	BH-103, 6.0					9/22/11	9:40												X		
7	BH-103, 12.5					↓	9:50												X		
8	BH-103, 13.4						10:10												HOLD		
9	BH-103, 16.5					↓	10:20												X		
10	BH-104, 5.0					9/22/11	16:53												X		
11	BH-104, 12.0					↓	17:15												X		
12	BH-104, 16.5	↓	↓			↓	17:30	↓											X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Wilhelm Welzenbach / AMEC	9/23/11								
	FED EX	092411	1025	Colette Wheeler / PACE	092411	1025	3.9	Y	N	N
							4.3			

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Wilhelm Welzenbach

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 09/23/11

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

1479068

Section A Required Client Information:

Company: AMEC
Address: 600 University St #600, Seattle, WA 98101
Email To: naila.moreira@amec.com
Phone: 734-645-2010 Fax:
Requested Due Date/TAT: Normal

Section B Required Project Information:

Report To: naila.moreira@amec.com
Copy To: gary.duffy@amec.com; wilhelm.wolzenbach@amec.com
Purchase Order No.: SE101601
Project Name: Avery Landing
Project Number: SE101601

Section C Invoice Information:

Attention: (See sect A)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, OTHER

Site Location STATE: ID

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	NWTPH-Dx	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BH-105, 5.0	SL	G			9/21/11	14:45		1										X		
2	BH-105, 12.5	"	"			"	15:05		"										X		
3	BH-105, 16.5	"	"			"	15:20		"										X		
4	BH-106, 5.0	"	"			9/21/11	12:30		"										X		
5	BH-106, 11.0	"	"			"	12:45		"										HOLD		
6	BH-106, 14.5	"	"			"	13:20		"										X		
7	BH-107, 5.0	"	"			9/20/11	14:25		"										X		
8	BH-107, 18.3	"	"			9/20/11	15:30		"										X		
9	BH-108, 5.0	"	"			9/21/11	10:20		"										X		
10	BH-108, 12.5	"	"			9/21/11	10:40		"										X		
11	BH-109, 6.0	"	"			9/21/11	7:40		"										X		
12	BH-109, 18.2	"	"			9/21/11	8:30		"										X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Wilhelm Wolzenbach/AMEC	9/23/11								
	FED Ex	092411	1025	Colette Weaver/PACE	092411	1025	3.9	Y	N	N
							4.3			

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Wilhelm Wolzenbach

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 09/23/11

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

259349

Page: 3 of 3

1479068

Section A Required Client Information:

Company:	AMEC
Address:	600 University, Ste 600 Seattle WA 98101
Email To:	naila.moreira@amec.com
Phone:	734-645-2090
Fax:	
Requested Due Date/TAT:	Normal

Section B Required Project Information:

Report To:	naila.moreira@amec.com
Copy To:	gary.dupuy@amec.com wilhelm.welzenbach@amec.com
Purchase Order No.:	SE101601l
Project Name:	Avery Landing
Project Number:	SE101601l

Section C Invoice Information:

Attention:	(See sect A)
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | OTHER

Site Location STATE: ID

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	NWTPH-Dx	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BH-110, 5.0	SL	G			9/20/11	16:45		1										X		
2	BH-110' 16.5	↓	↓			9/20/11	17:20		1										X		
3	BH-111' 5.0	↓	↓			9/22/11	11:10		1										X		
4	BH-111', 15.5	↓	↓			9/22/11	11:45		3*										X		
5	Dup	↓	↓			—	—		1										X		
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*Use BH-111, 15.5 for MS/MSD analysis	Wilhelm Welzenbach/AMEC	9/23/11								
	FED EX	092411	1025	Colette Weaver/PACE	092411	1025	3.9	Y	N	N
							4.3			

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Wilhelm Welzenbach

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 09/23/11

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Container Count

CLIENT: AMEC

Pace Analytical

COC PAGE 1 of 3

COC ID# _____

2913249

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU				Comments
1	~~X~~														
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															Trip Blank? No

AG1H	1 liter HCL amber glass		BP2S	500mL H2SO4 plastic		JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass		BP2U	500mL unpreserved plastic		R	terra core kit
AG2S	500mL H2SO4 amber glass		BP2Z	500mL NaOH, Zn Ac		U	Summa Can
AG2U	500mL unpreserved amber glass		BP3C	250mL NaOH plastic		VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass		BP3N	250mL HNO3 plastic		VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass		BP3S	250mL H2SO4 plastic		VG9U	40mL unpreserved **clear** vial
BG1U	1 liter unpreserved glass		BP3U	250mL unpreserved plastic		VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic		DG9B	40mL Na Bisulfate amber vial		VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic		DG9H	40mL HCL amber voa vial		WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic		DG9M	40mL MeOH clear vial		WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac		DG9T	40mL Na Thio amber vial		ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic		DG9U	40mL unpreserved **amber** vial			
BP2O	500mL NaOH plastic		I	Wipe/Swab			

Sample Container Count

CLIENT: AMEC

Pace Analytical

COC PAGE 2 of 3

COC ID# _____

259349

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU				Comments
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															Trip Blank? No

AG1H	1 liter HCL amber glass		BP2S	500mL H2SO4 plastic		JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass		BP2U	500mL unpreserved plastic		R	terra core kit
AG2S	500mL H2SO4 amber glass		BP2Z	500mL NaOH, Zn Ac		U	Summa Can
AG2U	500mL unpreserved amber glass		BP3C	250mL NaOH plastic		VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass		BP3N	250mL HNO3 plastic		VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass		BP3S	250mL H2SO4 plastic		VG9U	40mL unpreserved **clear** vial
BG1U	1 liter unpreserved glass		BP3U	250mL unpreserved plastic		VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic		DG9B	40mL Na Bisulfate amber vial		VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic		DG9H	40mL HCL amber voa vial		WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic		DG9M	40mL MeOH clear vial		WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac		DG9T	40mL Na Thio amber vial		ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic		DG9U	40mL unpreserved **amber** vial			
BP2O	500mL NaOH plastic		I	Wipe/Swab			

Sample Container Count

CLIENT: AMEC

Pace Analytical

COC PAGE 3 of 3

COC ID# _____

259349

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU				Comments
1										1					
2										1					
3										1					
4										3					
5										1					
6															
7															
8															
9															
10															
11															
12															Trip Blank? NO

AG1H	1 liter HCL amber glass		BP2S	500mL H2SO4 plastic		JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass		BP2U	500mL unpreserved plastic		R	terra core kit
AG2S	500mL H2SO4 amber glass		BP2Z	500mL NaOH, Zn Ac		U	Summa Can
AG2U	500mL unpreserved amber glass		BP3C	250mL NaOH plastic		VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass		BP3N	250mL HNO3 plastic		VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass		BP3S	250mL H2SO4 plastic		VG9U	40mL unpreserved **clear** vial
BG1U	1 liter unpreserved glass		BP3U	250mL unpreserved plastic		VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic		DG9B	40mL Na Bisulfate amber vial		VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic		DG9H	40mL HCL amber voa vial		WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic		DG9M	40mL MeOH clear vial		WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac		DG9T	40mL Na Thio amber vial		ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic		DG9U	40mL unpreserved **amber** vial			
BP2O	500mL NaOH plastic		I	Wipe/Swab			

Sample Condition Upon Receipt

Pace Analytical

Client Name: AMEC Project # 259349

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 7952 2235 5370, 5416

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ✓ No _____

Thermometer Used 132013 (101731962) 226099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.3c, 3.9c Biological Tissue is Frozen: Yes No

Temp should be above freezing ≤ 6°C

Date and Initials of person examining contents: 09241 CW

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A
Follow Up / Hold Analysis Requested:	☑Yes	☐No	☐N/A
Sufficient Volume:	☑Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☐Yes	☑No	☐N/A
Containers Intact:	☐Yes	☑No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A
Sample Labels match COC:	☐Yes	☑No	☐N/A
-Includes date/time/ID/Analysis Matrix: SL			
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A
Exceptions: VOA, coliform, TOC, O&G			
Samples checked for dechlorination:	☐Yes	☐No	☑N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A
Trip Blanks Present:	☐Yes	☐No	☑N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Creation Date:			

1.

2.

3.

4.

5.

6.

7.

8. DX on hold for BH-103, 13.4 & BH-106, 11.0

9.

10. not PACE seattle provided

11. 1 of 3 vial broken for BH-111, 15.5 transferred into another container.

12.

13. COC has the time of 1020 for BH-103, 16.5 & 1720 for BH-110, 16.5, The containers has the time of 1015 for BH-103, 16.5 & 1715 for BH-110, 16.5

Initial when completed	Lot # of added preservative

15.

16.

17.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: NJB Date: 9/26/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Andy Brownfield - RE: Avery Landing samples received saturday at Pace Seattle

From: "Moreira, Naila" <Naila.Moreira@amec.com>
To: Andy Brownfield <Andy.Brownfield@pacelabs.com>, "Welzenbach, Wilhelm" <w...
Date: 9/26/2011 11:00 AM
Subject: RE: Avery Landing samples received saturday at Pace Seattle

Hi Jyothi,

Thanks for the email. We will want to hold the samples until after we receive results from you . What is the hold time for TPH?

Please place BH-103 12.5 on hold instead of BH-106 11.0. We would like to have BH-106 11.0 analyzed.

Willy will let you know regarding the sample times for BH-103 and BH-110.

Thanks,

Naila

From: Andy Brownfield [mailto:Andy.Brownfield@pacelabs.com]
Sent: Monday, September 26, 2011 1:27 PM
To: Moreira, Naila; Welzenbach, Wilhelm
Subject: Avery Landing samples received saturday at Pace Seattle

Hi Naila, Will,

We received your samples on Saturday at Pace Seattle.

Few things to clarify and note.

The std turn for reporting is 10 working days and there are two samples on hold on the COC. Please advise if these samples are intended for testing after the reporting? We can always extract and hold the samples to ensure extraction within hold time.

Also, for BH-111 15.5, one of the jars was received broken, however we have enough volume to do Dx, MS/MSD on it.

Two samples have different times of sampling on the bottles when compared to the COC. Please advise which time to use?
BH-103 16.5 COC reads 10.20, container reads 10.15
BH-110 16.5 COC reads 17.20, container reads 17.15

Also, Andy Brownfield is your project manager, and currently she is on maternity leave. My name is Jyothi and I am working on her projects at the moment. I am using Andys email for easy tracking for her.

Thank you,